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Interpersonal Behavior Traits, Spiritual Well-Being and Their Relationship to Blood Pressure

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Relationship to Blood Pressure

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Abstract

This study explored the relationship of interpersonal behavior traits and spiritual well-being to blood pressure. Using the Interpersonal Behavior Survey, the study correlated interpersonal behavior traits with blood pressure levels. Additionally, using the Spiritual Well-Being Scale, the study evaluated the correlation between spiritual well-being and blood pressure levels.

It was found that blood pressure was unrelated to assertiveness in this sample, which consisted of 88 patients in a medical out-patient clinic. Assertiveness, however, was found to be positively correlated with spiritual well-being. Both are seen as being important aspects to quality of life.

Aggression expressed in a passive manner was found to be correlated with increased blood pressure. Aggressiveness expressed in verbal and physical manners was correlated with lower blood pressure.

Spiritual Well-Being was found to be highly negatively correlated with aggression. It was also found to be positively correlated with denial.

Finally, a negative correlation was found between spiritual well-being and blood pressure.

While there were a low number of participants with high blood pressure in this sample, the results indicate spiritual well-being may lower blood pressure and is an important aspect in quality of life.

Dedication

To my wife, Diane, who believed in me from start to finish.

Acknowledgements

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Chapter I

INTRODUCTION

It is generally agreed that our emotional well-being impacts directly upon our physical well-being. We cannot separate these two aspects of our nature, even if we wished we could. In fact, a whole field of medicine (psychosomatic) has emerged which focuses on the interrelationship of mind and body.

Hypertension is one such illness which is considered to fall within the domain of psychosomatic medicine. Traditionally, essential hypertension has been defined as chronically elevated blood pressure resulting from an unknown cause. Technically, hypertension is generally defined as excessive pressure of the blood against the arterial walls. It is usually restricted to the condition in which resting systolic pressure is consistently greater than 140 mm Hg, the diastolic pressure is greater than 90 mm Hg, and the individual complains of the signs and symptoms of

hypertension, also called high blood pressure (Keane and Miller, 1972).

Blood pressure is that pressure with which the blood pushes against the walls of the blood vessels. When the heart beats and pumps blood into the arteries, the pressure rises to its high point. This is the systolic pressure. When the heart relaxes between beats, this is called the diastolic pressure, and the pressure falls to its lowest point.

The psychosomatic approach to essential hypertension proposes that one's emotional disposition or personality traits play a causal role in the etiology of these elevations. The fact that emotional stresses can lead to the development of hypertension has been observed by various workers (Naditch, 1974; Lipowski, 1980; Henry and Cassel, 1969). It has also been found that reports of distressing life events are more common in hypertensives than in the general population (Narottam, Ahuja, Madhukar, 1982).

This chapter will explore hypertension from a psychosomatic approach tracing the various suggestions set forth over the years by authors who indeed submit that this ailment is affected by emotional factors.

Some factors suspected of affecting hypertension include elevated hostility, introversion, neuroticism and interpersonal behavior traits. This chapter will explore the relationship of interpersonal behavior traits to hypertension, the Type A behavior pattern, past and present theories of stress and its relationship to hypertension, and the relationship of defense mechanisms to hypertension. The relationship of spiritual well-being to hypertension will also be explored. Finally, this chapter will point out the need for further research in these areas and present hypotheses and questions addressed by the data which was collected.

Historical Overview

Many years ago studies began to emerge which explored various personality traits within the hypertensive person. Alexander (1939) seems to have been one of the first to write about the hypertensive as one who had "chronic inhibited, aggressive hostile impulses" (p. 175). He went on to say that these individuals had a particular psychodynamic character structure. Elevated hostility among hypertensives has been reported

consistently in the literature since that time (Schacter, 1957; Mann, 1977).

Holroyd and Gorkin (1983) found that both a family history of essential hypertension and anger inhibition were variables which were related to cardiovascular activity, demonstrating that an individual's style of anger management seems to be related to heart rate and blood pressure. Harburg (1973) found suppressed hostility (keeping anger in when attacked and feeling guilt if the anger is displayed) was related to blood pressure levels.

Individuals at risk for hypertension have also been shown to have increased levels of introversion, neuroticism and anxiety (Harburg, Julius, McGinn, McLeod, & Hoobler, 1964). Cochrane (1969) and others, however, have found no differences between hypertensives and normotensives with respect to neuroticism.

Weyer and Hodapp (1979) reported findings in support of hypotheses which suggest hypertensives suppress hostile impulses. They found that essential hypertensives suppress hostile impulses as well as having a striving for dependency. In addition they found personality traits which disposed them to experience more pressure, such as emotional lability and excitability. This is in

keeping with other research noted later which points to excessive reactivity to stress among essential hypertensives.

Increasingly, research is being done on the role of interpersonal behavior traits and their effect on aspects of emotional health. Interpersonal behavior traits are here defined as those characteristics exhibited by an individual in his/her relating to others. This includes, but is not limited to, assertiveness and aggressiveness, and the specific subscales used on the Interpersonal Behavior Survey (IBS).

The literature, however, presents a very sketchy view of which traits are related to hypertension and which are not, and results are often conflicting. Linden and Feurstein (1981) note that there may be a deficit in social skills in those prone to hypertension. Delamater (1981), however, found little evidence that the interpersonal behavior of hypertensives differed from normotensives. However, he found hypertensives to respond to stress with a defensive, high-anxious coping pattern. Cumes (1983) found that subjects with elevated blood pressure did not disclose as many personal concerns as normotensives. Steptoe, Melville, and Ross (1984), found that exaggerated cardiac responsiveness to active

challenges are probably characteristic of the prehypertensive profile. Dressler (1983) found that psychosocial resources provide an unspecified protective function with respect to hypertension.

Very little can be found in the literature regarding the relationships among interpersonal conflict, assertiveness, and hypertension. Keane, Martin, Berler, Fleece, Williams and Wooten (1982) attempted to explore the association of hypertension with an inability to express emotions, especially those involving conflict. Their findings indicated that the hypertensive responded less assertively on a number of dimensions than did a comparison group.

Baer, Bartlett, Bourianoff, Reed, Vincent, and Williams (1983) and Bartlett (1980), in studying conflict in families with hypertensive fathers, both found that hypertensive fathers and their normotensive wives and children looked at each other less (gaze aversion), both while speaking and listening, than did members of normotensive families. These results are consistent with a hypothesis of conflict avoidance in families with a hypertensive father.

Light (1981) found that effortful active coping is a significant factor in evoking large, sympathetically

mediated heart rate and blood pressure increases. This results from the inappropriate mobilization of sympathetic nervous system mechanisms whose adaptive function is to prepare the body for strenuous physical activity, even if none is required.

Type A Behavior Pattern

In contrast to the paucity of research done in most areas concerned with interpersonal behavior and hypertension is the attention which has been given to the Type A behavior pattern and its relationship to heart disease (Friedman and Rosenman, 1974). This pattern of behavior includes the tendency to engage in aggressive, competitive, and ambitious behavior. Behavior that appears to be an achievement-oriented, time-urgent response to environmental challenges has been designated as "coronary prone" behavior. Individuals who seldom display this behavior have been said to exhibit the Type B behavior pattern.

Again, as with much other research in this area, the results of research concerned with the Type A behavior pattern is confusing, establishing no clear and consistent trends. Rosenman (1966) reported that the

incidence of diastolic blood pressure above 95 mm Hg was higher for Type A individuals aged 34-39, but not for those 50 years and older. Howard, Cunningham, and Rechnitzer (1976) reported that businessmen with pronounced Type A behavior patterns evidenced both diastolic and systolic blood pressure readings that were higher than those of less pronounced Type A and Type B businessmen.

Shekelle, Shoenberger and Stamler (1976) determined that Type A women, ages 45-64, evidenced higher diastolic blood pressure than Type B. However, the Type A pattern was not related to diastolic blood pressure in women of younger age or in men at any age. In contrast to the above positive findings, Waldrod (1978) reported a negative correlation between Type A behavior and diastolic pressure in women aged 40-59 years.

While these results are unclear it may be that there is a positive relationship between Type A individuals and blood pressure which will be borne out by further research. It may well be that blood pressure in Type A individuals is especially reactive in those who become self-involved in environmental events. Nevertheless, the findings suggest further study in this area.

Stress and High Blood Pressure

What is stress? Everybody talks about it. We hear of the stress of job life, of retirement, or of losses. The word, because of its common usage, probably means different things to different people. Selye (1974) the father of stress theory, defines it as "The non-specific response of the body to any demand placed upon it" (p. 27).

From the point of view of the stressor activity, it does not matter if the situation we face is pleasant or unpleasant; all that counts is the intensity of the demand for readjustment or adaptation. Therefore, a positive experience, if unfamiliar or unexpected, could be felt as very stressful if we are not ready to handle it.

Stress is, however, not something to be avoided. In fact, it cannot be avoided. When we say that someone is "under stress", we generally mean they are under excessive stress. We are always experiencing some degree of stress, even when relaxed. No matter what you do or what happens to you there is a demand for the necessary energy to maintain life and to adapt to changing external influences. Therefore, complete freedom from stress is death.

Selye (1974) has coined the term "general adaptation syndrome". In this syndrome there are three stages. First, in the "alarm reaction" the body shows changes in response to a stressor. Secondly, if continued exposure to the stressor takes place, "resistance" ensues. Thirdly, following long continued exposure to the stressor, comes "exhaustion". The signs of the alarm reaction reappear and ultimately the individual will die if stressors are not reduced.

While many things take place within the body in response to excessive stress, it is generally recognized that the emergency discharge of adrenaline is one aspect of the alarm reaction. Additionally, the stressor excites the hypothalamus to produce a substance which stimulates the pituitary to discharge ACTH into the blood. ACTH in turn induces the cortical portion of the adrenal to secrete steroids. Another typical feature of the stress reaction is the development of peptic ulcers in the stomach and intestines.

The body responds to emotional stress as it would to a physical crisis, producing chemicals for extra strength and energy in this "fight or flight" process. What is the effect of these chemicals on our cardiac system?

It is extremely well documented that stress does tax us both emotionally and physically, and does have a negative impact on our cardiac system. Anderson (1978) states that:

> It is known that the ability of the organism to increase blood pressure is a response to a threat of injury or stress of some sort. In terms of the primitive physiological responses of fight or flight, the blood pressure seems to increase in either situation (p. 37-38).

Cobb and Rose (1973) found in a study of high blood pressure in air-traffic controllers as compared to second class airmen, that the blood pressure of air-traffic controllers was significantly higher than the comparison group. It was also found that the age of onset of high blood pressure was seven years earlier for the air-traffic controllers. These findings certainly seemed related to the stress associated with working in such a pressured environment.

Eliot and Breo (1984) methodically point out how strong reactions to stress contribute to high blood pressure and hardening of the arteries. They note how

these conditions set the stage for a variety of conditions, including heart attack.

Blood pressure can rise for three reasons. First, the heart can increase its output of blood by beating faster and/or harder. Secondly, the arteries may constrict and allow less blood to flow through. Thirdly, both of the above can occur together. High blood pressure is a sign that the heart is working extra hard to keep the blood moving.

The release of adrenaline and cortisol into the blood stream during stress has already been discussed. Adrenaline and cortisol have the effect of increasing the stickiness of platelets causing them to adhere to artery walls, creating an area where blood fats collect. When these fats harden they narrow the arteries. Additionally, these compounds may bombard the artery walls, damaging them and again leaving places for blood fats to lodge.

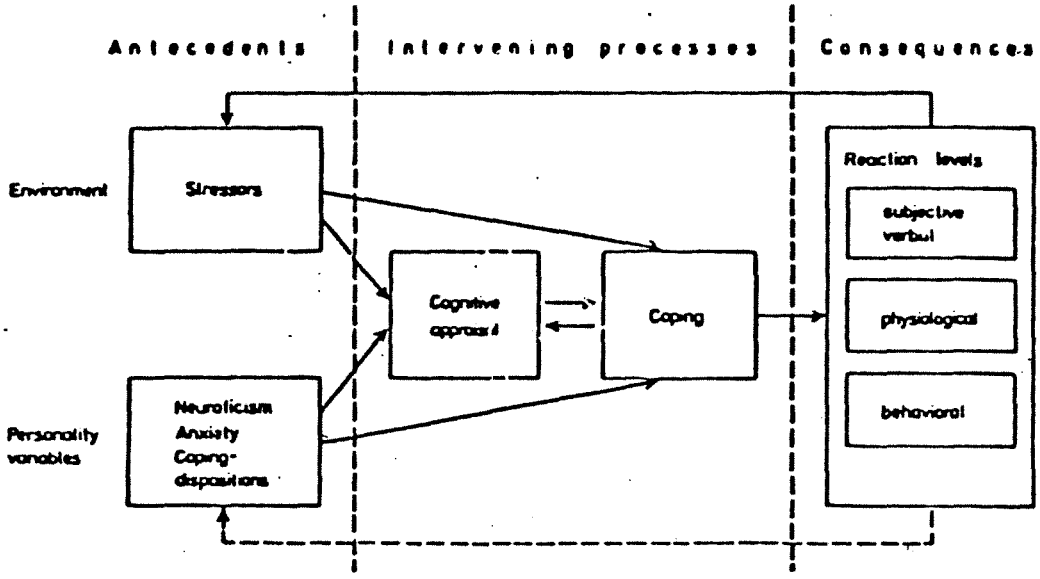
Repeated "fight or flight" reactions thus pave the way for hardening of the arteries, or atherosclerosis. This is one important cause of high blood pressure.

It is commonly understood, then, that psychosocial stress plays a role in the development of essential hypertension (Eliot and Breo, 1984; Collins, 1977; Weyer

and Hodapp, 1979). Views of what that role is have been changing in recent years. For example, it is now generally accepted that neither objective environmental variables nor certain personality characteristics alone cause stress. Rather, a person's evaluation of their environment is thought to influence the experience of stress. Lazurus (1966, 1971) has been a forerunner in this process. In his model an individual's "cognitive appraisal" of the situation will affect his behaving in certain ways and produce certain feelings. Cognitive appraisal means evaluating a situation, in this instance, as stressful or not. Using this model it is clear that someone who views a particular event as dangerous will feel more anxiety than the person who does not view the event as dangerous.

Another facet of this model (see Figure 1) aside from the antecedent variables, is the emphasis placed on the consequences of the stress response. For example, mention has already been made of the heightened reactivity found in essential hypertension. This reaction tendency expresses itself in stronger and more extended stress reactions (Brod, 1970; Engel and Bickford, 1961; Hodapp, Weyer and Becher, 1975).

Figure 1. Lazurus' Stress Model



Using Lazurus' stress model, personality traits and attitudes, such as spiritual well-being, are viewed as intervening variables which affect cognitive appraisal thus impacting on the stress response. It is in this fashion that some have hypothesized spiritual well-being lowers an individual's stress level. Collins (1977) believes that a positive relationship with God is very important in helping us handle stress. God, in the Bible, tells how to deal with anxieties as well as providing a framework in which one can understand adversity, which itself can be helpful in reducing stress. Viktor Frankl (1975) repeatedly has conveyed that a belief in God can be a valuable asset in dealing with adversity as well as giving meaning to our lives.

In summary, then, there is significant evidence to suggest that the way one evaluates external circumstances can lead to stress which can play a role in high blood pressure. Spiritual well-being is suggested to be an intervening variable which would impact on an individual's experience of, and way of coping with, stress.

Defense Mechanisms and High Blood Pressure

There is very little in the literature on the use of defense mechanisms by the hypertensive individual. Pittner, Houston, Spirioigliozzi (1983), found that Type A individuals employed more denial and projection across three high stress conditions. Minsky (1978) found that hypertensives scored significantly higher on the passive defense scales of the Defense Mechanisms Inventory. Fogliani, Fogliani and Castorina (1976) found a greater degree of repression that finds discharge in the somatic sphere, keeping any conflict at a somatic rather than psychic level.

Spiritual Well-Being and High Blood Pressure

Another aspect of this study is on the relationship of spiritual well-being to physical health, namely, blood pressure. The scriptures never, of course, relate spiritual health to blood pressure directly. They do, however, repeatedly relate a person's spiritual attitude to their physical nature. There seems to be an implicit

message as one reads the scriptures in their entirety, that is that spiritual welfare is integrally related to other aspects of well-being.

Beginning in the Old Testament God repeatedly used curses and blessings to show His pleasure or displeasure with His people. God told them that if they would follow His laws they would enjoy prosperity, which included physical health (Deut. 28 ff.). His process of blessing and cursing often included the element of physical health (Jer. 30:17). When Moses led the Israelites out of Egypt, the Lord promised him and his nation that:

> If thou wilt diligently hearken to the voice of the Lord thy God, and wilt do that which is right in his sight, and wilt give ear to his commandments, and keep all his statutes, I will put none of these diseases upon thee, which I have brought upon the Egyptians: for I am the Lord which healeth thee (Exodus 15:26).

For those people in those times, there appeared to be a definite relationship between spiritual health and physical health.

The book of Proverbs gives us general instructions for our lives. Again, we should not necessarily read in any direct cause and effect relationships; yet, Solomon in his wisdom speaks of the fear of the Lord as bringing "healing to your body" (Prov. 3:1-8). There are probably many factors included in the "fear of the Lord" which have a helpful effect on the healing of our bodies. In Proverbs 14:30 Solomon writes "A sound heart is the life of the flesh: but envy is rottenness of the bones."

David in the book of Psalms, repeatedly notes the effect of his sins on his physical well-being. Very graphically he tells that hiding his sins led to his body "wasting away" (Psalms 31:10; 32:3-4; 38:3). We have learned much from David about the importance which confession of sin has upon our total well-being.

Continuing on into the New Testament, it is clear that Jesus was very interested in physical health. There are numerous passages where He or His disciples healed physical diseases (Matt. 10:1; Matt. 15:30; Luke 6:17-19). The scriptures also admonish us to take care of our physical bodies because they are the temple of God (I Cor. 3:16-17; I Cor. 6:19-20). John, in his

address, wishes good health on the people "just as your soul prospers," implying that the soul and body go hand in hand (III John 2).

However, one final word of caution is in order, lest we assume that with spiritual health always comes physical health. The apostle Paul is an example of one who was given a thorn in the flesh to keep him from exalting himself (II Cor. 12:7).

It is clear, then, that the scriptures speak about physical health but never stipulate a causal relationship between spiritual health and physical health. While an absolute relationship may not exist, it is clear that our spiritual and physical well-being affect, and are affected by, one another. This is an area of study needing more research and is addressed in this study.

Years ago McMillen (1963), a physician, chronicled the wise directions given by God in The Scriptures on staying physically healthy. Guidance given in The Old Testament, once appearing to be foolish, now has been shown to contain much good practical advice. He went on to show that many scriptural principles are applicable in

alleviating psychosomatic illnesses, including high blood pressure saying:

> The sincere acceptance of the principles and teachings of Christ with respect to the life of mental peace and joy, the life of unselfish thought and clean living, would at once wipe out more than half the difficulties, diseases, and sorrows of the human race (p. 65).

The primary impetus for work in this area currently seems to come from Ellison (1983) who has found spiritual well-being to be an indicator of quality of life. Paloutzian and Ellison (1982) have also shown it to be negatively correlated with loneliness. Campbell (1983) found spiritual well-being could predict adjustment to hemodialysis with a moderate degree of confidence. Hawkins and Larson (1984) have also found strong positive correlations between self-ratings of health and religious well-being.

While these studies imply that there may be an inverse relationship between spiritual well-being and high blood pressure, very little exists in the literature to document this. Walsh (1980) found that the immigrant

who has a religious outlook on life tended to have lower blood pressure in stress-producing situations. Webster and Rawson (1979) have found that Seventh Day Adventists, who seem to have a commitment to health related life styles, showed less elevation of systolic and diastolic blood pressures. Lyon, Wetzler, Gardner, Klauber and Williams (1978), found similar results among Mormon populations.

Interestingly, there are indications that spiritual well-being may be positively related to denial and responding in socially acceptable ways. Whether this is a method of covering inadequacies, or simply obedience to scriptural norms, is unclear. Parker (1984) found the Spiritual Leadership Qualities Inventory to be positively related to the Impression Management Scale on the IBS, and the K Scale on the Minnesota Multi-Phasic Personality Inventory (MMPI), with both scales reflecting a tendency to answer in a socially desirable manner.

Problem Definition

There is very little in the literature which pertains specifically to the relationship of various interpersonal behavior traits to blood pressure. What exists is sketchy and often contradictory. A few traits have received the bulk of attention. There is a need for further studies to clarify these relationships and to explore new areas of research pertaining to this topic. It would be helpful to correlate specific interpersonal behavior traits and their relationship to blood pressure. Which traits seem directly related to lower blood pressure? Which seem related to high blood pressure?

Spiritual well-being and its relationship to blood pressure is virtually an unexplored area. It is understood that spiritual well-being is a part of quality of life, and it is also generally agreed that quality of life is directly related to physical health. This then is a neglected area of study which needs to be further explored.

Finally, this study proposes to use a sample which has been ignored in the literature, a medical outpatient

clinic. Most samples used in the study of hypertension have been psychology students. This study, then, proposes to use a more representative sample than has been used previously.

Because the literature is so sparse in the area proposed by this study, the results generated will hopefully add to any existing data, and perhaps even be seminal. There is a hypothesis, and the literature somewhat supports this, that the suppression of conflict and certain emotions such as anger contribute to high blood pressure. This study could, if the correlations support it, strengthen this proposal. Because of the sketchy nature of the literature the results generated by this study could be important in documenting a positive relationship between interpersonal behavior traits, such as conflict avoidance, and high blood pressure.

The use of the IBS will generate other seminal data as well in examining the relationship of interpersonal behavior traits to blood pressure. For example, the IBS yields a denial score which can be correlated to blood pressure. The relationship of defenses used to blood pressure is a little-explored area of research which

could yield valuable results such as elucidating the relationship between defenses and psychosomatic illness. This study expects to find a positive relationship between denial and high blood pressure, supporting the trend in the literature indicating a positive relationship between denial and psychosomatic illness.

In addition to establishing new data which will point the way for future research, the findings may also have important treatment implications of high blood pressure. For example, any treatment regimen may need to include teaching interpersonal behavior skills, such as assertiveness training, as well as the medical control of the symptomatology. It may be beneficial to include religious aspects in the wholistic treatment approach of this disease as well.

In summary, this study will be examining the relationship of variables which need further research, namely interpersonal behavior traits, spiritual well-being and blood pressure. While much has been researched concerning high blood pressure, it has not been adequately explored as to its relationship to interpersonal behavior traits and spiritual well-being. The results will give further directions to research needing to be done.

Hypotheses

The general research hypotheses of this study are that blood pressure will be positively correlated with aggressiveness, and negatively correlated with assertiveness and spiritual well-being. Specific hypotheses to be tested include:

H_1: There will be a negative relationship between the IBS Assertiveness Scales and blood pressure.

H_2: There will be a positive relationship between the IBS Aggressiveness Scales and blood pressure.

H_3: There will be a positive relationship between the IBS Denial Scales and blood pressure.

H_4: There will be a positive relationship between the IBS Conflict Avoidance Scale and blood pressure.

H_5: There will be a negative relationship between the Spiritual Well-Being Scale and blood pressure.

H_6: There will be a positive relationship between the IBS Assertiveness Scales and Spiritual Well-Being Scale.

H_7: There will be a negative relationship between the IBS Aggressiveness Scales and the Spiritual Well-Being Scale.

H_8 : There will be a positive relationship between the IBS Denial and Impression Management Scales and the Spiritual Well-Being Scale.

H_9 : There will be a negative relationship between the IBS Conflict Avoidance Scale and the Spiritual Well-Being Scale.

Questions

In addition to the above hypotheses, the following questions will be asked:

1. What will the relationship be between spiritual well-being and blood pressure when variables such as age, weight, smoking, and diet are controlled?
2. What will the relationship be between assertiveness/aggressiveness and blood pressure when variables such as age, weight, smoking and diet are controlled?
3. What will the relationship be between assertiveness/aggressiveness and spiritual well-being when variables such as age, weight, smoking and diet are controlled?

Chapter II

METHODS

Subjects

Participants for this study were patients drawn from a private, medical outpatient clinic in Portland, Oregon. Eighty-eight patients were sampled, with selection being done on a randomly chosen day of the week. Participants were limited to those ages 18-60.

Instrumentation

Background Information Questionnaire

Included on this form were items such as age, sex, socioeconomic status, religious orientation, with spaces provided for height, weight, wrist size, and blood pressure information. Other data pertaining to cardiovascular health were included such as family history of cardiovascular problems, kidney trouble, exercise habits, drinking, smoking, and dietary habits. See Appendix A for specific items.

Spiritual Well-Being Scale

In order to avoid a response bias, the title was omitted from the top of the SWB Scale found in the appendix. Additionally it was referred to as a personal well-being scale on the consent form. This was an attempt to prevent approaching the scale with a particular mind set.

The SWB Scale was designed by Paloutzian and Ellison in 1982 to measure self-perception of spiritual well-being. The SWB Scale has 20 items in a 6-point Likert format which are divided into two subscales of 10 items each. The subscales measure religious well-being (RWB) and existential well-being (EWB). The two dimensions together make up spiritual well-being (Ellison, 1983).

The SWB scale has been subjected to factor analysis. Paloutzian and Ellison (1979) have discovered three factors in the scale, one religious factor and two existential factors. They also found test-retest reliability co-efficients obtained from 100 student volunteers at the University of Idaho of .93 (SWB), .96 (RWB), and .86(EWB) (Paloutzian and Ellison, 1982). The

internal consistency was demonstrated by a coefficient alpha of .89(SWB), and .87(RWB), and .78(EWB).

Ellison and Economos (1981) have found strong positive correlations between spiritual well-being and self-esteem, while Paloutzian and Ellison (1979) have reported that the SWB scale correlated negatively with the UCLA Loneliness Scale, and positively with the Purpose in Life Test, intrinsic religious orientation, self-esteem and social skills. Hawkins and Larson (1984) found that existential well-being and religious well-being are vital components of spiritual well-being, and were highly correlated. Spiritual well-being was found to be positively correlated to self-ratings of past and present health. Spiritual well-being has been previously shown to be an important aspect in quality of life, and was highly correlated to EWB.

Interpersonal Behavior Survey (IBS)

The IBS was designed by Mauger and Adkinson (1980). It assesses a person's assertive and aggressive behaviors, and is also considered to be a general indicator of the way a person deals with interpersonal conflict. The IBS has 272 items and a true/false response format.

Assertiveness here is defined as "Behavior directed toward reaching some desired goal which continues in the direction of that goal in spite of obstacles in the environment or the obstacles of others". Aggressiveness is here defined as "Behavior that originates from attitudes and feelings of hostility toward others. The purpose of aggressive behavior is to attack other individuals or to exert power over them in some fashion" (Mauger and Adkinson, 1980, P. 1.).

The individual IBS scales fall under four categories: (1) validity scales, (2) aggressiveness scales, (3) assertiveness scales, and (4) relationship scales. The validity scales reflect test-taking attitudes which affect scores on the other scales. Included in the validity scales are the Denial scale, Infrequency scale, and Impression Management scale. The Denial Scale (DE) indicates a hesitancy to admit common socially undesirable traits. The Infrequency Scale (IF) indicates a tendency to endorse infrequently endorsed items. The Impression Management Scale (IM) detects sophisticated defensiveness.

Included in the aggressiveness scales are eight scales measuring various aspects of aggressive behavior. The General Aggressiveness Rational Scale (GGR) measures aggressiveness in behaviors, feelings, and attitudes. The General Aggressiveness Empirical Scale taps general aggressiveness by comparing responses of persons rated as aggressive with responses of a normative sample. The Hostile Stance Scale (HS) measures an antagonistic orientation toward other people. The Expression of Anger Scale (EA) indicates a tendency to lose one's temper and express anger in a direct, forceful manner. The Disregard for Rights Scale (DR) measures the tendency to ignore the rights of others in order to gain advantage for oneself. The Verbal Aggressiveness Scale (VE) indicates the tendency to use words in an aggressive manner. The Physical Aggressiveness Scale (PH) reflects the tendency to use or fantasize using physical force. Finally, the Passive Aggressiveness Scale (PA) indicates indirect or passive expressions of aggressiveness.

Included in the Assertiveness scales are nine scales measuring various assertive behaviors. The General Assertive Rational Scale (SGR) is a general measure of assertiveness. The General Assertive Empirical Scale is able to differentiate persons rated as assertive from

those rated as nonassertive. The Self-Confidence Scale (SC) measures the expression of positive attitudes about one's self. The Initiating Assertiveness Scale (IA) is an indication of leadership potential. The Defending Assertiveness Scale (DA) reflects behaviors related to standing up for one's own rights. The Frankness Scale (FR) indicates the willingness to communicate one's true feelings and opinions. The Praise Scale (PR) indicates one's degree of comfort in giving and receiving praise. The Requesting Help Scale (RE) measures the willingness to ask for help when needed. The Refusing Demands Scale (RF) indicates the willingness to say "no" to unreasonable demands.

Finally, there are three relationship scales which include the Conflict Avoidance Scale, Dependency Scale and Shyness Scale. The Conflict Avoidance Scale (CA) indicates a tendency to evade conflict with others. The Dependency Scale (DP) indicates the degree to which a person is dependent on others. The Shyness Scale (SH) samples behaviors such as friendliness and the enjoyment of social interaction.

The reliability characteristics of the IBS have been determined using a test-retest format both over 2 day and

10 week periods. The mean reliability coefficient is greater than .90 (Mauger and Adkinson, 1980).

Factor analytic studies have shown that assertiveness and aggressiveness form distinct response classes. Correlations between the Aggressiveness and Assertiveness scales of this test are in the predicted low to zero range with no item overlap. "This demonstrates that the IBS measures of assertiveness and aggressiveness are basically independent response classes and supports the construct validity of the test" (Mauger and Adkinson, 1980, P. 15). The IBS has also been correlated with several well-known personality inventories such as the MMPI and the Edwards Personal Preference Schedule, demonstrating the convergent and discriminant validity of the IBS.

Procedure

Office personnel approached patients coming into the clinic and briefly described the project and asked if they would be willing to review the consent form which also described the project. Those willing to participate signed the consent form and then were given the Background Information Questionnaire and Interpersonal Behavior Survey. Those unwilling to participate were noted with

the reason for not participating. In addition to the questionnaire, nurses recorded wrist size, weight, height and blood pressure. Most patients then completed part of the questionnaires while waiting to see their physician and returned the balance of the material later in an envelope provided for them.

For the purpose of this study hypertension was defined as either: (1) systolic pressure greater than 140 mm Hg. (2) diastolic pressure greater than 90 mm Hg. or (3) both systolic pressure greater than 140 mm Hg., and diastolic pressure greater than 90 mm Hg. Blood pressure was measured on all patients by a registered nurse trained in the accurate measurement and recording of blood pressure. All blood pressures were taken with the patient seated in a chair. All blood pressures were taken from the right arm with the appropriate size blood pressure cuff. Blood pressure was measured with an externally applied blood pressure cuff with mercury manometer and and stethoscope.

This section has described the subjects used in the study, a description of the instrumentation, and the procedure for gathering the data. The remainder of the paper will examine and discuss the results of the data collected.

Chapter III

RESULTS

This section of the study gives the results of the data collection. Included in this section are methods for data analysis, missing data, and the descriptive data for the sample. A review of the descriptive data on background information is then included. A correlational matrix is then given along with a table of correlates. Finally, the hypotheses and questions from this study are discussed in light of the data results.

Data Analysis

The research design of this study is considered to be correlational and quasi-experimental. This study developed correlational relationships among the variables aforementioned. In the demographic section descriptive data was obtained which included categories such as marital status, age, weight, socioeconomic status. These were reported in numbers in each category and percentages.

The continuous variables such as age and weight were reported in means and standard deviations. A correlational matrix was included to measure the relationships among the Interpersonal Behavior Survey, Spiritual Well-Being Scale and blood pressure. Multiple regression analysis was run on variables such as age and weight, removing their variance and recalculating the relationship among interpersonal behavior traits, spiritual well-being, and blood pressure.

Missing Data

All persons who were 18 to 60 years of age who came to the medical clinic on one of the three days of data collection were asked to participate in the study. At the completion of the third day 115 questionnaires had been distributed; 128 people had been asked to participate, but 13 people refused for various reasons. Typical reasons for choosing not to participate include "not feeling well enough," "prefer not to," "prefer not to be weighed," and

"not really interested." Twenty-seven people did not return the data. Eighty-eight (77%) ultimately returned the materials.

Little can be known about the 27 (23%) who failed to return the materials, and this is an unfortunate aspect of this type of study and data retrieval process. Of the 88 who did return the data, most completed the questionnaires completely. However, in a few instances it can be noted that parts of the questionnaires were left incomplete, again for unknown reasons.

Background Information Data

A review of the descriptive data on background information revealed that the mean age of participants was 37.68, a standard deviation of 10.13 and a range of 21 to 60 years of age. There were 27 male participants (30.7%) and 61 females (69.3%). While the question of race was never asked, all participants were caucasian. The mean educational level was 14.58 years, a standard deviation of 2.57 and a range of 12 to 22 years of education. Forty-three (48.8%) had incomes ranging from $15,000 - $29,999 per year. Mean church attendance was fairly high, nearly reaching weekly participation. The

mean systolic blood pressure was 119.07 mm/hg with a standard deviation of 19.87 and a range of 86.00 mm/hg to 178.00 mm/hg. The mean diastolic blood pressure was 76.30, a standard deviation of 12.58, with a range of 52.00 mm/hg to 112.00 mm/hg.

Table 1 provides descriptive statistics for the Background Information Questionnaire, including mean, standard deviation, range, minimum, maximum and sample size.

Table 1

Descriptive Statistics for the Background Information Questionnaire.

Variable	Mean	Std Dev	Range	Minimum	Maximum	N
AGE	37.68	10.13	39.0	21.0	60.0	88
PREMAR	.23	.47	2.0	0.0	2.0	88
EDUC	14.58	2.57	10.0	12.0	22.0	86
CHURCH	4.26	2.08	6.0	0.0	6.0	88
MEDS	.09	.29	1.0	0.0	1.0	88
SYS BP	119.07	19.87	92.0	86.0	178.0	88
DIAS BP	76.30	12.58	60.0	52.0	112.0	88
FAMILY	2,81	1.57	7.0	0.0	7.0	88

Table 1 (Continued)

Descriptive Statistics for the Background Information Questionnaire.

Variable	Mean	Std Dev	Range	Minimum	Maximum	N
DIET	1.28	.76	4.0	0.0	4.0	88
CIG	1.61	5.23	22.0	0.0	22.0	87
YEARS	1.72	5.04	25.0	0.0	25.0	87
ALCOHOL	.93	1.40	5.0	0.0	5.0	88
WT.RATIO	1.07	.17	.6	.7	1.4	88

Interpersonal Behavior Survey Results

The mean on the Denial Scale was at a T-score of 54.74, with a standard deviation of 8.69. The mean Infrequency T-score was 44.39 with a standard deviation of 4.54. The mean Impression Management T-score was 55.15 with a standard deviation of 8.01.

Means on the Aggressiveness scales ranged from T-scores of 40.77 on Hostile Stance to 43.58 on Physical

Aggressiveness, indicating this sample reports a low-average level of aggressive behavior. Excesses in aggressive behavior are considered with T-scores above 60. The Hostile Stance mean T-score was 40.77 with a standard deviation of 7.18. The mean Expression of Anger T-score was 43.16 with a standard deviation of 7.52. The mean Disregard for Rights T-score was 42.51 with a standard deviation of 7.20. The mean Verbal Aggressiveness T-score was 43.27 with a standard deviation of 7.00. The mean Physical Aggressiveness T-score was 43.58 with a standard deviation of 6.56. The mean Passive Aggressive T-score was 43.30 with a standard deviation of 7.50.

Means on the Assertiveness scales ranged from T-scores of 48.59 on Self-Confidence to 52.98 on Refusing Demands, indicating an above average level of assertiveness. Deficits in assertive behavior are considered with scores below 40. The mean Self-Confidence T-score was 48.59 with a standard deviation of 9.65. The mean Initiating Assertiveness T-score was 50.20 with a standard deviation of 10.70. The mean Defending Assertiveness T-score was 50.51 with a standard deviation of 10.03. The mean Frankness T-score was 50.17 with a

standard deviation of 9.79. The mean Praise T-score was 51.20 with a standard deviation of 8.80. The mean Requesting Help T-score was 49.11 with a standard deviation of 10.24. The mean Refusing Demands T-score was 52.98 with a standard deviation of 9.82.

Among the relationship scales, the mean Conflict Avoidance T-score was 50.82 with a standard deviation of 10.66. The mean Dependency T-score was 47.62 with a standard deviation of 9.92. The mean Shyness T-score was 51.76 with a standard deviation of 9.51.

Table 2 provides descriptive statistics for the Interpersonal Behavior Survey, including mean, standard deviation, range, minimum, maximum, and sample size.

Table 2

Descriptive Statistics for the Interpersonal Behavior Survey.

Variable	Mean	Std Dev	Range	Minimum	Maximum	N[1]
DE	54.74	8.69	41.0	37.0	78.0	
IF	44.39	4.54	19.0	40.0	59.0	
IM	55.15	8.01	34.0	38.0	72.0	
GGR	40.81	6.72	42.0	26.0	68.0	

[1]N = 88

Table 2 (continued)

Descriptive Statistics for the Interpersonal Behavior Survey.

Variable	Mean	Std Dev	Range	Minimum	Maximum	N[1]
HS	40.77	7.18	39.0	26.0	65.0	
EA	43.16	7.52	40.0	33.0	73.0	
DR	42.51	7.20	36.0	32.0	68.0	
VE	43.27	7.00	31.0	31.0	62.0	
PH	43.58	6.56	41.0	31.0	72.0	
PA	43.30	7.50	31.0	33.0	64.0	
SGR	50.72	10.03	44.0	22.0	66.0	
SC	48.59	9.65	40.0	26.0	66.0	
IA	50.20	10.70	44.0	25.0	69.0	
DA	50.51	10.03	45.0	20.0	65.0	
FR	50.17	9.79	40.0	26.0	66.0	
PR	51.20	8.80	42.0	24.0	66.0	
RE	49.11	10.24	33.0	30.0	63.0	
RF	52.98	9.82	43.0	22.0	65.0	
CA	50.82	10.66	54.0	26.0	80.0	
DP	47.62	9.92	44.0	26.0	70.0	
SH	51.76	9.51	37.0	38.0	75.0	

[1] N = 88

Spiritual Well-Being Results

On the Religious Well-Being Scale, the mean score was 51.03, a standard deviation of 10.93, with the range being from 10 to 60. On the Existential Well-Being Scale, the mean score was 50.34, a standard deviation of 8.35, with the range being from 28 to 60. On the Spiritual Well-Being Scale, the mean score was 101.37, a standard deviation of 17.11, with the range being from 61 to 120.

Table 3 provides the descriptive statistics for the Spiritual Well-Being Scale, including mean, standard deviation, range, minimum, maximum, and sample size.

Table 3

Descriptive Statistics for the Spiritual Well-Being Scale.

Variable	Mean	Std Dev	Range	Minimum	Maximum	N[1]
RWB	51.03	10.93	50.0	10.0	60.0	
EWB	50.34	8.35	32.0	28.0	60.0	
SWB	101.37	17.11	59.0	61.0	120.0	

[1] N = 88

Gender Identity of Participants

There were 88 total participants of which 27 (30.7%) were males and 61 (69.3%) were female.

Table 4

Frequency Distribution for Gender

Gender	Frequency	Percent	Cum Percent
Male	27	30.7	30.7
Female	61	69.3	100.0
TOTAL	88	100.0	

Figure 2. Frequency Distribution for Gender

```
N    GENDER
27   Male   ++++++++++++++++++
61   Female ++++++++++++++++++++++++++++++++++++++++++

            I.........I.........I.........I.........I.
            0         15        30        45        60

                    Histogram Frequency
```

Marital Status

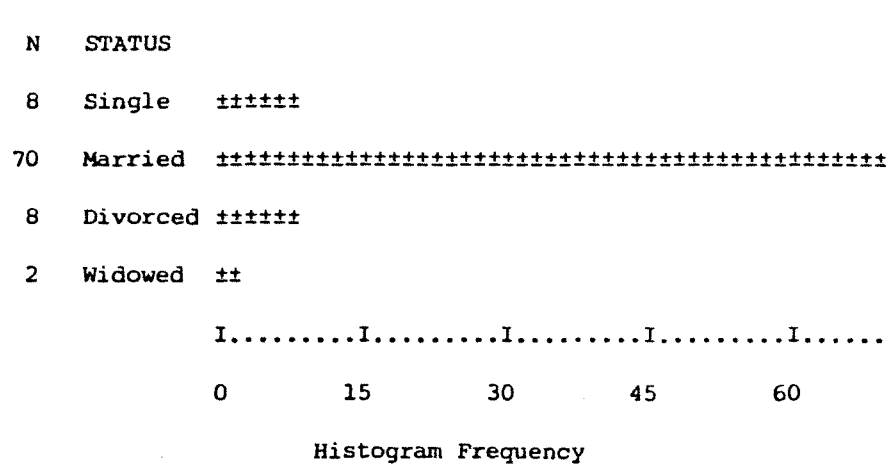
Of the 88 participants, 8 (9.1%) were single, 70 (90.5%) were married, 8 (9.1%) were divorced, and 2 (2.3%) were widowed.

Table 5

Frequency Distribution for Marital Status

Marital Status	Frequency	Percent	Cum Percent
Single	8	9.1	9.1
Married	70	79.5	88.6
Divorced	8	9.1	97.7
Widowed	2	2.3	100.0
TOTAL	88	100.0	

Figure 3. Frequency Distribution for Marital Status



Previous Marriages

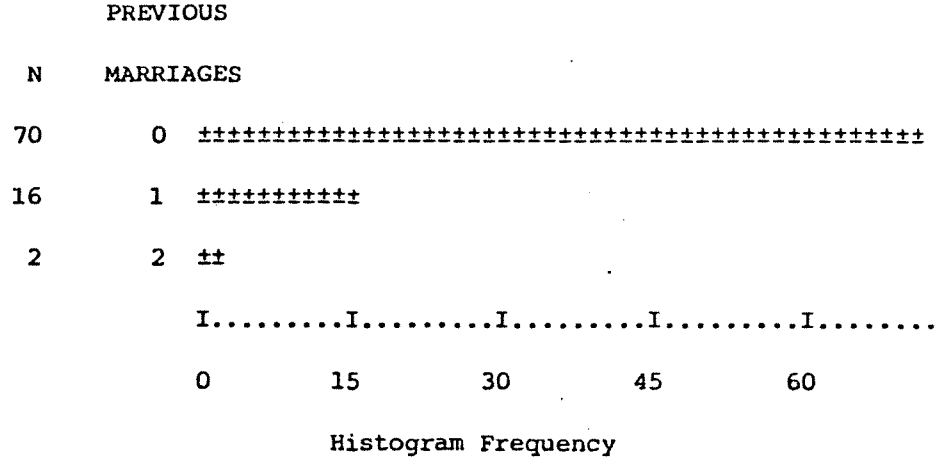
Of the 88 participants, 70 (79.5%) had no previous marriages, 16 (18.2%) had 1 previous marriage, and 2 (2.3%) had 2 previous marriages.

Table 6

Frequency Distribution for Previous Marriages

Previous Marriages	Frequency	Percent	Cum Percent
0	70	79.5	79.5
1	16	18.2	97.7
2	2	2.3	100.0
TOTAL	88	100.0	

Figure 4. Frequency Distribution for Previous Marriages



Occupational Status

Occupation categories were obtained from the Summary Listing of Occupational Categories, Divisons and Groups, published by the U.S. Department of Labor (1977). There were 34 (38.6%) participants who rated themselves as professionals; 17 (19.3%) were clerical workers; 1 (1.1%) was in processing occupations; 2 (2.3%) were in machine trades; none were in benchwork occupations; 2 (2.3%) were in structural work occupations; 10 (11.4%) were in service occupations; 1 (1.1%) was in agricultural occupations; 1 (1.1%) was in miscellaneous occupations; and 18 (20.5%) had no occupation.

Table 7

Frequency Distribution for Occupation

Occupation	Frequency	Percent	Cum Percent
Professional	34	38.6	39.5
Clerical	17	19.3	59.3
Processing	1	1.1	60.5
Machine Trades	2	2.3	62.8
Structural Work	2	2.3	65.1
Service	10	11.4	76.7

Table 7 (continued)

Frequency Distribution for Occupation

Occupation	Frequency	Percent	Cum Percent
Agricultural	1	1.1	77.9
Miscellaneous	1	1.1	79.1
No Occupation	18	20.5	100.0
Missing Data	2	2.3	
TOTAL	88	100.0	

Figure 5. Frequency Distribution for Occupation

```
 N   OCCUPATION
34   Prof.     ++++++++++++++++++++++++++++++++++++++++++
17   Clerical  ++++++++++++++++++++++
 1   Process   ++
 2   Machine   +++
 0   Benchwk.  +
 2   Structur  +++
10   Service   ++++++++++++
 1   Agri.     ++
 1   Misc.     ++
18   None      ++++++++++++++++++++++
               I.........I.........I.........I.........I......
               0         8        16        24        32
                     Histogram Frequency
```

Annual Family Income

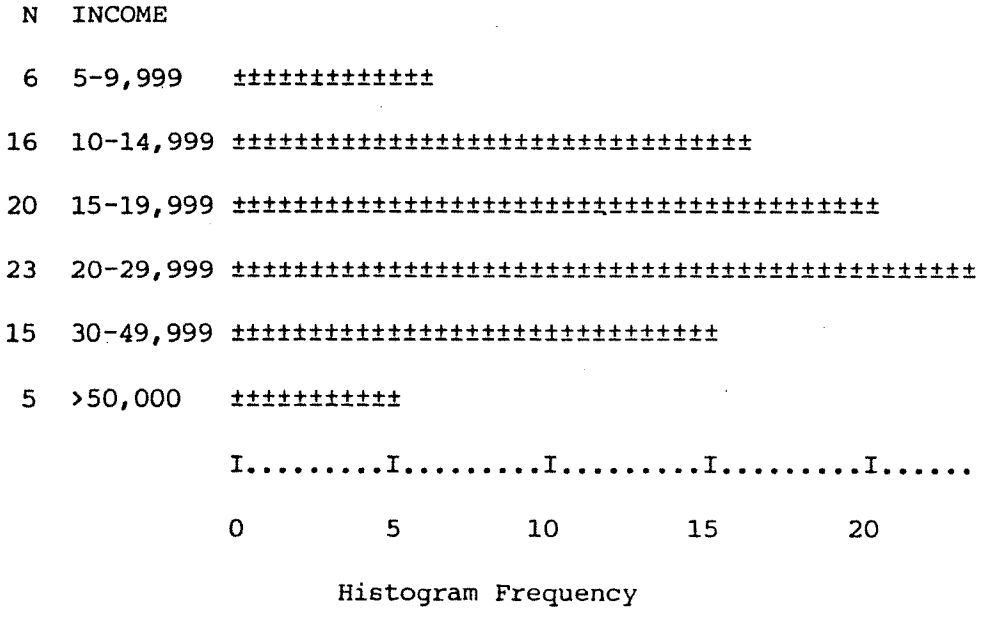
There were no participants with family income of less than $5,000 per year. 6 (6.8%) had family income of $5,000 - $9,999 per year; 16 (18.2%) had family income of $10,000 - $14,999 per year; 20 (22.7%) had family income of $15,000 - $19,999 per year; 23 (26.1%) had family income of $20,000 - $29,999 per year; 15 (17.0%) had family income of $30,000 - $49,999 per year; and 5 (5.7%) had family income greater than $50,000 per year. 3 participants (3.4%) failed to fill out this part of the questionnaire.

Table 8

Frequency Distribution for Income

Income	Frequency	Percent	Cum Percent
5-9,999	6	6.8	7.1
10-14,999	16	18.2	25.9
15-19,999	20	22.7	49.4
20-29,999	23	26.1	76.5
30-49,999	15	17.0	94.1
>50,000	5	5.7	100.0
Missing Data	3	3.4	
TOTAL	88	100.0	

Figure 6. Frequency Distribution for Income



Church Affiliation

Ten (11.4%) stated that they were affiliated with the Catholic church. None were affiliated with the Jewish faith; 64 (72.7%) stated that they were affiliated with a Protestant denomination; 3 (3.4%) stated that they belong to some other, unspecified church; finally, 11 (12.5%) stated that they were affiliated with no church.

Table 9

Frequency Distribution for Church Affiliation

Church	Frequency	Percent	Cum Percent
Catholic	10	11.4	11.4
Protestant	64	72.7	84.1
Other	3	3.4	87.5
None	11	12.5	100.0
TOTAL	88	100.0	

Figure 7. Frequency Distribution for Church Affiliation

```
 N  CHURCH
10  Catholic   ++++++++
 0  Jewish     +
64  Protestant ++++++++++++++++++++++++++++++++++++++++++++++++
 3  Other      +++
11  None       ++++++++
              I.........I.........I.........I.........I....
              0         15        30        45        60
                    Histogram Frequency
```

Church Attendance

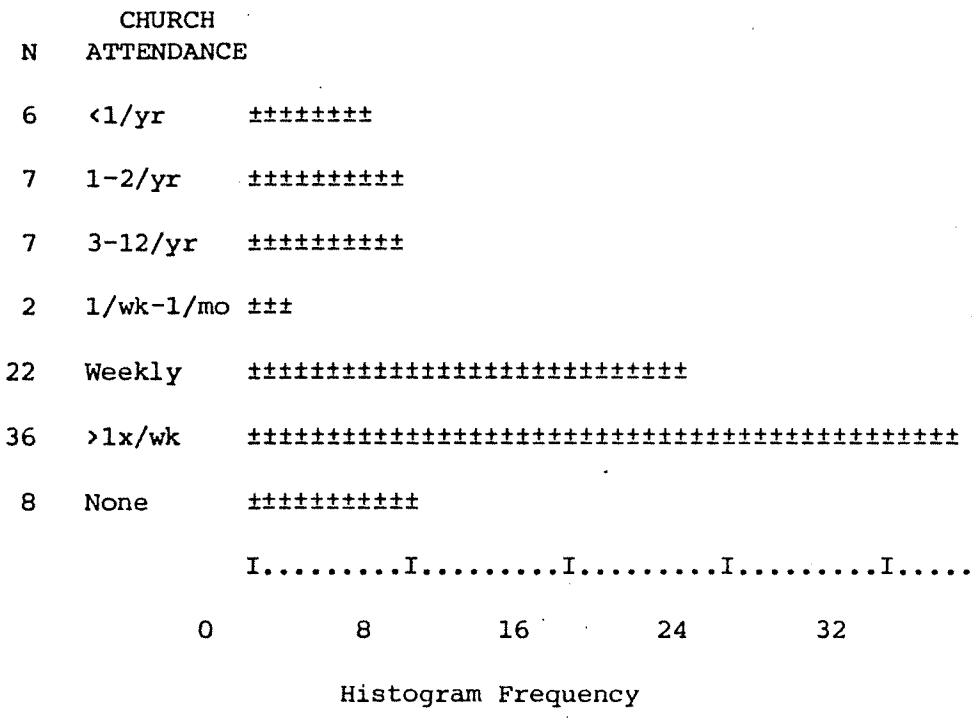
Eight (9.1%) stated that they did not attend church at all; 6 (6.8%) attended church less than one time per year; 7 (8.0%) attended church once or twice per year; 7 (8.0%) attended between three to twelve times per year; 2 (2.3%) attended between one time per month and once weekly; 22 (25.0%) attended church weekly; 36 (40.9%) attended church more than once per week.

Table 10

Frequency Distribution for Church Attendance

Church Attendance	Frequency	Percent	Cum Percent
< 1/yr	6	6.8	6.88
1-2/yr	7	8.0	14.8
3-12/yr	7	8.0	22.7
1/wk-1/mo	2	2.3	25.0
Weekly	22	25.0	50.0
>1x/wk	36	40.9	90.9
None	8	9.1	100.0
TOTAL	88	100.0	

Figure 8. Frequency Distribution for Church Attendance



Medication Use

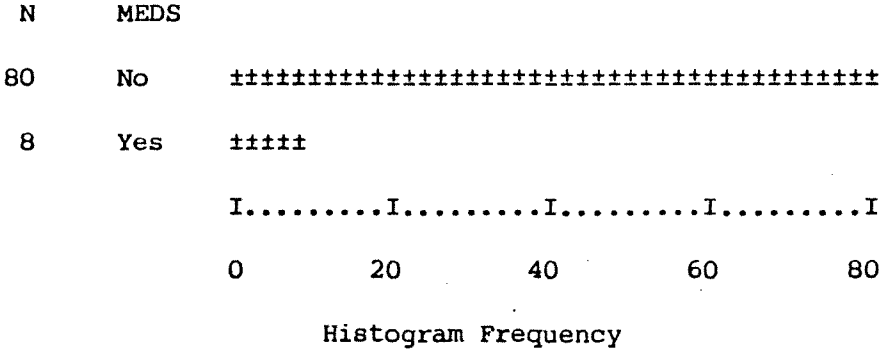
Eighty (90.9%) of the participants reported taking no medications related to high blood pressure at the time of the survey, while 8 (9.1%) reported taking medications related to high blood pressure.

Table 11

Frequency Distribution for Blood Pressure Medications

Meds	Frequency	Percent	Cum Percent
No	80	90.9	90.9
Yes	8	9.1	100.0
TOTAL	88	100.0	

Figure 9. Frequency Distribution for Medications



Family Health History

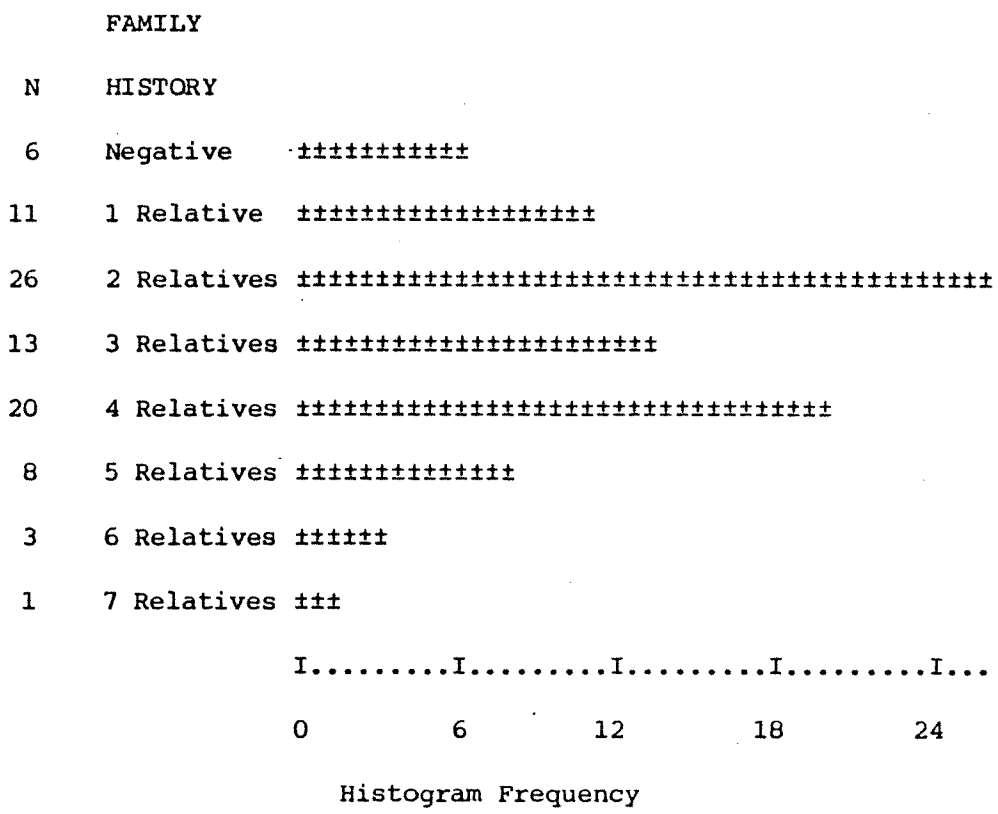
Many participants had some relative with health problems which was related to, or would impact upon blood pressure. Six participants (6.8%) had no relatives with blood pressure related health problems. Eleven (12.5%) had one relative with related health problems; 26 (29.5%) had two relatives; 13 (14.8%) had three relatives; 20 (22.7%) had four relatives; 8 (9.1%) had five relatives; 3 (3.4%) had six relatives; and 1 (1.1%) had seven relatives with related health problems.

Table 12

Frequency Distribution for Family Health History of Ilnesses Associated with Elevated Blood Pressure

Family History	Frequency	Percent	Cum Percent
Negative	6	6.8	6.8
1 Relative	11	12.5	19.3
2 Relatives	26	29.5	48.9
3 Relatives	13	14.8	63.6
4 Relatives	20	22.7	86.4
5 Relatives	8	9.1	95.5
6 Relatives	3	3.4	98.9
7 Relatives	1	1.1	100.0
TOTAL	88	100.0	

Figure 10. Frequency Distribution for Family Health History of Illnesses Associated with Elevated Blood Pressure



Dietary Restrictions

Most participants had some dietary restrictions which could be related to blood pressure. Five (5.7%) had no dietary restrictions; 62 (70.5%) had one dietary restriction; 14 (15.9%) had two restrictions; 5 (5.7 %) had three restrictions; and, 2 (2.3%) had four restrictions.

Table 13

Frequency Distribution for Dietary Restriction

Diet Restrictions	Frequency	Percent	Cum Percent
None	5	5.7	5.7
1	62	70.5	76.1
2	14	15.9	92.0
3	5	5.7	97.7
4	2	2.3	100.0
TOTAL	88	100.0	

Figure 11. Frequency Distribution for Dietary Restriction

```
          DIET
N     RESTRICTIONS

 5     None ++++

62        1 ++++++++++++++++++++++++++++++++++++++++++++

14        2 ++++++++++

 5        3 ++++

 2        4 ++

           I.........I.........I.........I.........I..

           0         15        30        45        60

                    Histogram Frequency
```

Alcohol Consumption

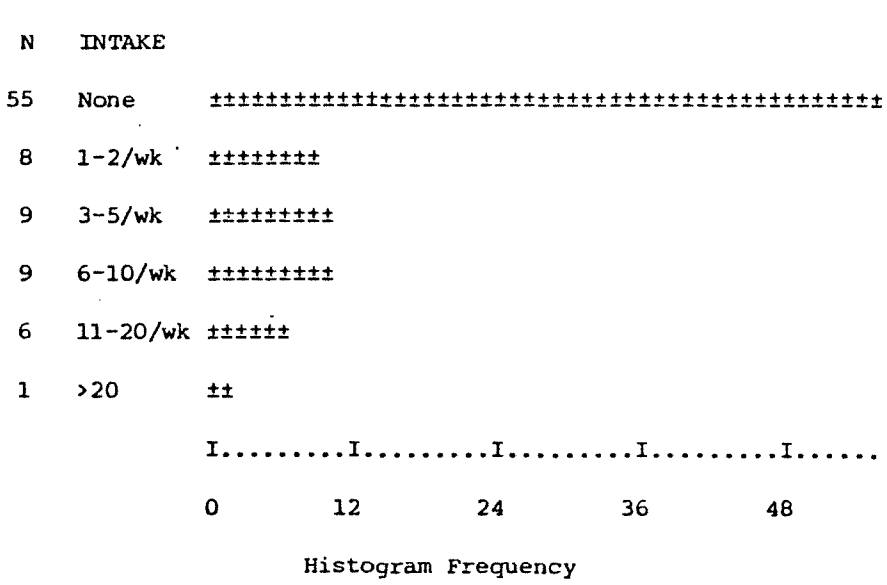
Fifty Five (62.5%) reported having no alcoholic drinks per week; 8 (9.1%) had one - two drinks per week; 9 (10.2%) had three - five drinks per week; 9 (10.2%) had six - ten drinks per week; 6 (6.8%) had eleven - twenty drinks per week; and 1 (1.1%) had more than twenty drinks per week.

Table 14

Frequency Distribution for Alcohol Consumption

Alcohol Intake	Frequency	Percent	Cum Percent
None	55	62.5	62.5
1-2/wk	8	9.1	71.6
3-5/wk	9	10.2	81.8
6-10/wk	9	10.2	92.0
11-20/wk	6	6.8	98.9
>20	1	1.1	100.0
TOTAL	88	100.0	

Figure 12. Frequency Distribution for Alcohol Consumption



Correlational Matrix

Pearson's r correlations among the Interpersonal Behavior Survey, the Spiritual Well-Being Scale, systolic and diastolic blood pressure are reported in Table 15. A more complete correlational matrix may be found in Appendix D.

Table 15

Correlational Matrix

Correlations:	SYSBP	DIASBP
Interpersonal Behavior Survey		
DENIAL	-.041	.091
INFREQUENCY	.003	.083
IMPRESSION MANAGEMENT	-.034	-.028
GENERAL AGGRESSIVENESS	.002	-.069
HOSTILE STANCE	-.016	-.049
EXPRESSION OF ANGER	.064	-.086
DISREGARD FOR RIGHTS	.204*	.052
VERBAL AGGRESSIVENESS	-.182*	-.167
PHYSICAL AGGRESSIVENESS	-.148	-.219*
PASSIVE AGGRESSIVENESS	.259**	.179*
GENERAL ASSERTIVENESS	.024	-.085
SELF-CONFIDENCE	.070	-.043
INITIATING ASSERTIVENESS	.107	.075
DEFENDING ASSERTIVENESS	-.030	-.119
FRANKNESS	-.026	-.106

Table 15 (Continued)

Correlational Matrix

Correlations:	SYSBP	DIASBP
Interpersonal Behavior Survey		
PRAISE (GIVING/RECEIVING)	.011	-.143
REQUESTING HELP	.031	-.083
REFUSING DEMANDS	.036	-.002
CONFLICT AVOIDANCE	.134	.141
DEPENDENCY	.038	.029
SHYNESS	.019	.093
Spiritual Well-Being Scales		
RELIGIOUS WELL-BEING	-.230*	-.104
EXISTENTIAL WELL-BEING	-.159	-.046
SPIRITUAL WELL-BEING	-.225*	-.089

1-tailed Signif: *-.05 **-.01

Hypotheses and Questions

Hypothesis One

Hypothesis one stated that there would be a negative relationship between the IBS Assertiveness scales and blood pressure. Hypothesis one is not confirmed as no relationship was found between these variables as is evidenced on the correlational matrix in Table 15. The correlations did not approach significance at the p=.05 level. None of the Assertiveness subscales approached correlational significance with either systolic or diastolic blood pressure.

Hypothesis Two

Hypothesis two states there will be a positive relationship between the IBS Aggressiveness scales and blood pressure. This hypothesis received little support. There was no significant relationship between the General Aggressiveness Scale and systolic or diastolic blood pressure. There was a positive correlation between the Disregard for Rights Scale and systolic blood pressure, significant at the p=.05 level. There was also a positive correlation at the p=.01 level between the Passive

Aggressiveness Scale and systolic blood pressure. The same positive correlation held between the Passive Aggressiveness Scale and diastolic blood pressure at the p=.05 level.

There were also two negative correlations found. There was a negative correlation between the Verbal Aggressiveness Scale and systolic blood pressure at the p=.05 level. There was also a negative correlation between the Physical Aggressiveness Scale and diastolic blood pressure at the p=.05 level.

Hypothesis Three

Hypothesis three states that there will be a positive relationship between the IBS Denial Scale and blood pressure.

This hypothesis was not confirmed. There was no significant correlation between the Denial Scale and blood pressure. There was also no significant correlation between blood pressure and the other validity scales, the Infrequency and Impression Management scales.

Hypothesis Four

Hypothesis four states that there will be a positive relationship between the IBS Conflict Avoidance Scale and

blood pressure. This hypothesis was not supported. The correlations between the Conflict Avoidance Scale and blood pressure were not significantly correlated.

Hypothesis Five

Hypothesis five states that there will be a negative relationship between the Spiritual Well-Being Scale and blood pressure.

This hypothesis was confirmed. There was a negative correlation between the Religious Well-Being Scale and systolic blood pressure at the $p=.05$ level. There was also a negative correlation between the Spiritual Well-Being Scale and systolic blood pressure at the $p=.05$ level. Existential Well-Being was negatively correlated with systolic blood pressure but not at a significant level.

Hypothesis Six

Hypothesis six states that there will be a positive relationship between the IBS Assertiveness scales and the Spiritual Well-Being Scale. Results showed that there was a positive correlation between the Religious Well-Being subscale and the Refusing Demands Scale at the $p=.05$ level.

The Existential Well-Being Scale was significantly correlated to all assertiveness scales, at the p=.001 or .01 level. Existential Well-Being is correlated with the General Assertiveness Scale at the p=.001 level. Table 15 presents the remainder of this data.

The combined Spiritual Well-Being Scale was significantly correlated with most of the Assertiveness scales. It was correlated with the General Assertiveness Scale at the p=.01 level. Correlations did not reach significance between the SWB Scale and the subscales of Initiating Assertiveness, Defending Assertiveness, or Requesting Help. The balance of the Assertiveness scales and the Shyness Scale were correlated with the Spiritual Well-Being Scale at the p=.01 level.

Hypothesis Seven

Hypothesis seven states that there will be a negative relationship between the IBS Aggressiveness scales and the Spiritual Well-Being Scale.

This hypothesis was confirmed. There was a negative correlation, significant at the p=.001 level, between the General Aggressiveness Scale and the Religious Well-Being Scale. There was also a negative correlation, significant at the p=.001 level, between the Disregard for Rights

Scale and the Religious Well-Being Scale. The Religious Well-Being Scale was negatively correlated with the remainder of the Aggressiveness scales, as can be seen in Table 15, with the exception of two scales. There was no correlation between the Religious Well-Being Scale and the Verbal Aggressiveness and Physical Aggressiveness Scales.

The Existential Well-Being Scale was negatively correlated with the General Aggressiveness Scale at the p=.01 level of significance. It was also negatively correlated with the Passive Aggressiveness Scale at the p=.001 level of significance. There was no significant correlation between the RWB Scale and the other aggressiveness scales.

The SWB Scale was negatively correlated with the General Aggressiveness Scale at the p=.001 level of significance. It was also negatively correlated with the Passive Aggressiveness Scale at the p=.001 level. The SWB Scale was not significantly negatively correlated with the Verbal Aggressiveness and Physical Aggressiveness scales. There was a significant negative correlation between the SWB Scale and the remainder of the Aggressiveness scales as can be seen in Table 15.

Hypothesis Eight

Hypothesis eight states that there will be a positive relationship between the IBS Denial and Impression Management scales and the Spiritual Well-Being Scale.

This hypothesis was supported. The Religious Well-Being Scale was positively correlated with the Denial Scale at the p=.05 level of significance. There was not a significant correlation between the RWB Scale and the Impression Management Scale.

The Existential Well-Being Scale was positively correlated with the Denial Scale at the p=.01 level. The EWB was also positively correlated with the Impression Management Scale at the p=.001 level.

The Spiritual Well-Being Scale was positively correlated with both the Denial and Impression Management scales at the p=.01 level.

Hypothesis Nine

Hypothesis nine states that there will be a negative relationship between the IBS Conflict Avoidance Scale and the Spiritual Well-Being Scale.

This hypothesis was minimally supported. There was no relationship between the Religious Well-Being Scale and the Conflict Avoidance Scale. There was a negative

correlation between the Existential Well-Being Scale and the Conflict Avoidance Scale at the p=.05 level. There was no significant correlation between the Spiritual Well-Being Scale and the Conflict Avoidance Scale.

Questions

In addition to the above hypotheses three questions were asked. In summary they ask for the relationship between spiritual well-being and blood pressure, between assertiveness/aggressiveness and blood pressure, and between assertiveness/aggressiveness and spiritual well-being, when variables such as age, weight, smoking and diet are controlled.

A multiple regression analysis was run to control for these variables. The results indicate that even when these variables are controlled the correlations are not significantly changed. Table 16 shows that the correlation between the SWB Scale and systolic blood pressure had a significant loss, yet remains significant at the p=.05 level. The correlation between the SGR Scale and the SWB Scale did not have a significant loss, and remains correlated at the p=.01 level. No relation was found between the other variables included in this analysis, therefore, the partials were not listed.

Table 16

Relationship of SWB, SGR, and GGR, to blood pressure with diet, cigarettes, age, and weight ratio factored out.

	Correlates	
	Pearson's r	Regressed Partial
SWB - SYS BP	.225	.193*
SGR - SWB	.266	.252

* Lost .05 significance

Summary

The statistical analysis of the data produced many interesting results. Many of the hypotheses were confirmed or partially confirmed. The SWB scales were positively correlated with the IBS Assertiveness scales. There was a positive and negative correlation between the IBS Aggressiveness scales and blood pressure. There was a positive correlation between the Disregard for Rights and Passive Aggressiveness scales and blood pressure. There

was a negative correlation between the Verbal Aggressiveness and Physical Aggressiveness scales and blood pressure. There was a negative correlation between the Aggressiveness scales and the SWB scales. There was a positive correlation between the Denial and Impression Management scales and the SWB scales. There was a negative correlation between EWB and the Conflict Avoidance Scale. Finally, and importantly, there was a negative correlation between the SWB Scale and systolic blood pressure.

Many of the findings have implications regarding the role of interpersonal behavior traits and spiritual well-being in the treatment of high blood pressure. These will be discussed in the final section of this paper.

Chapter IV

DISCUSSION

Overview of the Discussion

This section evaluates and interprets the results. The first part is comprised of a discussion of the descriptive data of the sample. The second part deals with a discussion of the hypotheses. The third part deals with the limitations of the study. The fourth part includes a discussion of the theological concept of spiritual well-being. Finally, there are directions for further research and a summary of this entire section.

Descriptive Data

Sample

The sample is comprised of 88 participants ranging in age from 18 to 60. The 88 participants were those who returned the data, with 27 out of the 115 participants electing not to return the data. Little can be known about those who chose not to return their data.

Table 1 shows the descriptive data of the 88 who did return their data. The mean age for this group was 37.68. The sample was fairly heavily weighted with females, having 61 women to 27 men. This is a bias of this sample and probably reflects the tendency for this particular general practitioner's office to see more women than men.

An interesting descriptive statistic was the number of previous marriages of this sample. The number of previous marriages was 20, indicating a low number of individuals with previous marriages. This is probably a reflection of the fact that the doctors and staff of this particular clinic are known to have a strong religious value system, and it attracts people who have a similar value orientation. This particular orientation discourages divorce.

This sample had a mean level of education of 14.58 years. This indicates that this sample was relatively well educated. It is suspected that education tends to enhance one's overall coping skills. This seems to be confirmed by the strong positive correlation between education and assertiveness and self-confidence.

The median income for this sample was $20,000 - $29,999 annually. This again suggests that this was a middle class sample.

The frequency of church attendance confirms that the norm sample attends church quite regularly. Sixty-six percent of this sample reports attending church at least once a week.

Interpersonal Behavior Survey

Validity Scales

The mean scores for the validity scales were as follows: Denial, 54.74; Infrequency, 44.39; and Impression Management, 55.15. The average scores on these validity scales suggest that on the whole the participants answered the test items honestly and candidly. They were not overly concerned with creating a socially desirable impression of their interpersonal behavior (Mauger and Adkinson, 1980). However they were a bit more guarded than the norm sample as reflected by slight increases in both the DE and IF Scales.

Aggressiveness Scales

The mean score on the General Aggressiveness Scale (GGR) was 40.81, suggesting a low degree of aggressiveness. The subscales of the Aggressiveness Scale were all under a T-score of 44 also suggesting a low amount of aggressiveness compared to the norm sample. This is consistent with the highly religious character of the sample reflected by frequency of church attendance.

Assertiveness Scales

The mean score on the General Assertiveness Scales was 50.72, with the mean subscales falling within the range of 48-53. This suggests that on the whole this sample was average in assertiveness. Deficits in assertive behaviors are indicated when T-score values fall to 40 or below (Mauger and Adkinson, 1980).

Relationship Scales

The mean scores on the relationship scales were as follows: Conflict Avoidance, 50.82; Dependency, 47.62; and, Shyness, 51.76. These scores suggest that, on the whole, this sample is about average in these areas. In other words, they do not tend to avoid conflict unduly, be overly dependent or overly shy in their interpersonal relationships.

Spiritual Well-Being Scale

The mean scores on the Spiritual Well-Being scales were as follows: Existential Well-Being, 50.34; Religious Well-Being, 51.03; and, Spiritual Well-Being, 101.37. In a comparison with 17 other groups using the SWB Scale this sample had significantly lower SWB and RWB scores than a sample of born-again Christians and Assembly of God Church members, but significantly higher RWB and SWB scores than a sample of Unitarian Church members. This sample also had significantly higher SWB, RWB, and EWB scores than a sample of non-religious sociopaths (Bufford, Bentley, Papania and Newenhouse, 1986). This suggests that this sample had a slightly above average amount of spiritual, religious, and existential well-being.

Hypotheses

Blood Pressure and Assertiveness

It was hypothesized that there would be a negative relationship between assertiveness and high blood pressure. This relationship was not found. The lack of correlations found suggest that blood pressure is

unrelated to assertiveness in this sample. This may be due in part to the modest level of blood pressure in this sample.

Blood Pressure and the IBS Aggressiveness Scales

It was hypothesized that there would be a positive relationship between the IBS Aggressiveness scales and blood pressure. Both positive and negative correlations were found.

There was a positive correlation between the Disregard for Rights and Passive Aggressiveness scales and systolic blood pressure. There was also a positive correlation between the Passive Aggressiveness Scale and diastolic blood pressure. These findings support beliefs that aggression expressed in a passive manner, i.e., by stubbornness, procrastination and negativism, has a detrimental effect on blood pressure.

However, there were also some unexpected findings, which upon closer scrutiny, make good sense. There were negative correlations found between the Verbal Aggressiveness Scale and systolic blood pressure, and between the Physical Aggressiveness Scale and diastolic blood pressure. At second glance these correlations make

sense because they let out emotion which might otherwise be destructively pent up. It would be interesting to see if this is a curvilinear relationship. Might verbal aggressiveness be good for blood pressure up to a certain point? This would be an interesting continuation of this present study.

Denial and Blood Pressure

It was suspected that there would be a positive relationship between the IBS Denial Scale and blood pressure. This relationship was not confirmed by the data. It was suspected that the tendency to deny problems would be related to the avoidance of conflict, and hence, to blood pressure. While indeed the Denial Scale was positively related to the Conflict Avoidance Scale, and negatively related to the Expression of Anger Scale, it had no significant relationship to blood pressure. The sample, however, consisted of few people with high blood pressure.

This is a dimension which is believed to warrant further exploration. It is possible that a relationship does indeed exist between these two variables, but, that it is complex. For example, perhaps because this sample consisted of "average" amounts of denial the study doesn't

show what the relationship might be if there were high amounts of denial. It is suspected that an average level of denial is a healthy trait, while a high level of denial is pathological and might indeed be related to high blood pressure. This is an area to be studied further.

A possible method for exploring the above hypothesis would be the use of the MMPI, and particularly, looking at the Overcontrolled Hostility Scale and its relationship to high blood pressure. Megargee, Cook and Mendelson (1967) state that this scale measures subtle excessive inhibition against the expression of anger in any form.

The relationship between denying aggression and spiritual well-being is an interesting one. Christianity certainly promotes minimizing hostile, aggressive feelings. This study has shown that spiritual well-being and aggression are negatively related. And yet, it is wondered if indirectly, by discouraging any expression of anger and aggression, including angry feelings, there might be some unhealthy sequelae (eg. high blood pressure) to this process. This is purely speculative at this point and deserves much further study.

Conflict Avoidance and Blood Pressure

It was hypothesized that there would be a positive relationship between the IBS Conflict Avoidance Scale and blood pressure. This hypothesis was not supported. The correlations were in the positive direction, but did not reach significance. Because of their positive direction further exploration of this relationship is believed to be warranted. A significantly positive correlation might be found in a sample consisting of more hypertensives.

Spiritual Well-Being and Blood Pressure

It was hypothesized that there would be a negative relationship between the SWB Scale and blood pressure. This hypothesis was confirmed. The RWB and SWB scales were both negatively correlated with systolic blood pressure.

These findings suggest that spiritual well-being reduces blood pressure in some manner, the exact nature of which is unclear. These findings are consistent with Biblical teachings discussed earlier, that a right spirit has a positive effect on our bodies. When we are spiritually healthy, we are more likely to be physically healthy as well.

It has already been documented that spiritual well-being is an integral aspect in achieving a high quality of life, and perhaps it is in this way that blood pressure is affected. It is suspected that spiritual well-being affects tranquility of life, which would certainly affect blood pressure. Not surprisingly, this study shows that church attendance is significantly negatively correlated with systolic blood pressure.

From an interpersonal perspective, it could be that spiritual well-being also promotes a healthy interaction with others, which mediates blood pressure. This study shows a strong negative correlation between SWB and the Shyness Scale. It appears that spiritual well-being promotes a sense of belonging and probably facilitates more involvement with others. The "family of God" becomes a place to experience belonging, caring and sharing, and acceptance. In this atmosphere it is suspected that "telling the truth in love" is also tried and experienced. These confrontation skills are also suspected of reducing blood pressure.

Assertiveness and Spiritual Well-Being

It was hypothesized that assertiveness and spiritual well-being are correlated traits. Evidence has been presented showing that spiritual well-being can be an important aspect to quality of life, as can also be the case with general assertiveness. Subscales of the Assertiveness Scale, i.e. Self-Confidence and Praise, have face validity of being related to general well-being. They have been shown to also be negatively correlated with subscales on the MMPI, which measures psychopathology.

The findings confirmed the hypothesis that the Assertiveness Scales would be positively correlated with the Spiritual Well-Being Scale. While it is never possible to be sure of the exact nature of a correlational relationship, it is suspected that as spiritual well-being increases, so do existential well-being and assertiveness. Both existential well-being and assertiveness comprise some of the same domain, and both are suspected of being influenced by an attitude of spiritual well-being.

Spiritual Well-Being and the IBS Aggressiveness Scales

It was hypothesized that there would be a negative relationship between the IBS Aggressiveness scales and the

Spiritual Well-Being Scale. This hypothesis was strongly confirmed, with both subscales of the SWB Scale being strongly negatively correlated to the aggressiveness scales. This suggests that as spiritual well-being increases, aggressiveness decreases. This is not a surprising finding in light of the fact that the value system taught in The Scriptures, and in other religious texts for that matter, discourages various forms of aggression. It is antithetical to The Scriptures to disregard the rights of others, and, in fact, they teach that other's rights and needs are to be considered because they are God's creatures too and are to be held in high esteem.

Denial, Impression Management and Spiritual Well-Being

In continuation of the previous theme it was suspected that the values which promote spiritual well-being might also promote denial. This relationship was supported, with a finding that the RWB, EWB, and SWB scales were all positively correlated with the IBS Denial Scale.

It has been suspected that the relationship between denial and mental health is curvilinear, and not linear. In other words, a low amount of denial can be just as

destructive physically as a high amount of denial. If this is the case, these findings are not as concerning as they first appear. Hardly anyone would disagree with the fact that you cannot deal with all of lifes problems all the time. This is simply impossible from a psychological point of view. All at times need to place conflicts "out of their mind," to be dealt with at a later time. Certainly The Scriptures support a laying aside of problems, as is expressed in "casting all your care upon Him" (I Peter 5:7 K.J.V.). When one truly believes that he is being cared for and protected by The Lord, it is possible not to become overly concerned about day to day problems. Of course, striving for a balance between personal problem solving and denial is the key. From a religious point of view perhaps denial is not the best term, but rather "faith" and "trust".

Conflict Avoidance and the SWB Scale

It was believed that there would be a negative relationship between the IBS Conflict Avoidance Scale and the SWB Scale. This hypothesis was only partly confirmed but gave reason for further study.

The EWB was significantly negatively correlated with the CA Scale, as predicted. The ability to deal with

conflict is a fundamental skill in having good interpersonal relationships, which, again, is fundamental to well-being.

The SWB Scale was negatively correlated to the CA Scale, but again did not reach significance. It is difficult to have high spiritual well-being and not belong to some family of believers. It is difficult to belong to some family of believers without also engaging in some conflict. It is hypothesized that belonging to this "family" facilitates interpersonal skills, including conflict resolution skills. This area needs to be studied further.

Previous Marriages and Well-Being

Another finding of this study is the significant positive relationship between the number of previous marriages and systolic and diastolic blood pressure. This is not a surprising finding considering how stressful we know divorce and death to be. There is also a negative correlation between the number of previous marriages and EWB scores. These findings again support the idea that divorce is often detrimental to our physical and emotional well-being.

Further supporting data shows that the number of previous marriages is positively related to the Passive Aggressiveness, and Physical Aggressiveness scales. It is also positively related to distance from ideal body weight. Additionally, the number of previous marriages is negatively related to the General Assertiveness, Self-Confidence, and Defending Assertiveness scales. There seems to be little doubt that disruption of a marital relationship for any reason is likely to have negative ramifications on health and emotional well-being.

Findings and Review of The Literature

The findings of this study are consistent with those in the literature. The most important findings of this study are those indicating aggression expressed passively may have a negative impact on blood pressure, while aggression expressed physically and verbally may have a beneficial effect. These findings lend support to the long-standing belief that pent-up emotion is not good for our physical health.

A more seminal finding was that spiritual well-being seems to have a lowering effect upon blood pressure.

While the research suggests that spiritual well-being has a positive effect on health, little research has been done in this area. This important finding actually links lowered blood pressure to spiritual well-being. This is a new area needing much more research to document the role of spiritual well-being to aspects of physical health. These findings, however, support the Biblical principles cited earlier indicating spiritual health can lead to physical health.

Limitations of the Study

There are many inherent limitations to a descriptive, correlational study such as this. First of all, the limited generalizability must immediately be recognized. The study was done at a primarily White, Anglo-Saxon, Protestant, medical clinic. Additionally, there are limitations in using a medical population rather than a random sample from the general population.

Second, a correlational study can only show correlation, not causation. This must always be kept in mind in reviewing any data generated from this study. A correlation between any two variables will reflect the

degree to which those variables go together, or vary together, but we cannot say one causes the other. Obviously, however, the greater the magnitude of the correlation, the greater its predictive ability. For example, a strong positive correlation allows us to predict the strength of one variable from the other with some degree of certainty.

Another limitation of the study is the limited number of instruments used with this population. To insure a high incidence of participation it was decided to restrict the number of instruments given. This obviously will limit the amount of data obtained from from the study.

Finally, there is a concern at this point with the potential confounding effect because so many extraneous variables could affect blood pressure. It was important to isolate as many of these extraneous variables as possible and include them in the research design. This, however, was done in a way so as to not significantly lengthen the instrumentation.

Theological Concept of Spiritual Well-Being

Because of the inherent difficulty in discussing or measuring any subjective phenomenon, spiritual well-being has been relatively ignored until the last few years. At that time there was an attempt to study spiritual health, and the first step in this attempt was to define what was meant by spiritual well-being. The National Interfaith Coalition on Aging in 1975 described it this way: "Spiritual well-being is the affirmation of life in a relationship with God, self, and community and environment, that nurtures and celebrates wholeness" (Ellison, 1982, P. 5).

It can be seen from this definition that spiritual well-being, as they defined it, is not simply concerned with man's relationship to God. There is a religious component, certainly, but also a social-psychological component. This is consistent with Moberg (1971) who believed spiritual well-being was two faceted, with both vertical and horizontal components. The vertical dimension relates to our sense of well-being in relation to God, while the horizontal dimension relates to a sense of life purpose and life satisfaction.

Ellison (1983) notes that it is the spirit of human beings which motivates them to search for meaning and purpose in life. Frankl (1975) gained a wide following when he, too, noted that meaning and purpose in life came not from external circumstance, but from a personal relationship to God.

Ellison (1983) goes on to note that the spiritual dimension does not exist separate from the psyche and soma, and in fact serves an integrative function. He states "It affects and is affected by our physical state, feelings, thoughts and relationships. If we are spiritually healthy we will feel generally alive, purposeful and fulfilled, but only to the extent that we are psychologically healthy as well" (P. 332).

According to recent theorists, then, the spiritual dimension plays a vital role heretofore either minimized or ignored. A plausible conceptualization is to suggest a bi-directional triangle, consisting of psyche, soma, and spirit, with each affected by and affecting the others.

Directions for Further Research

This study has explored several important areas and in the process has found several areas needing further research.

First, and most importantly, the relationship of spiritual well-being to other aspects of health needs to be further explored. What other aspects of health are affected by spiritual well-being? Does it have a positive effect on the development or treatment of cancer? What other illnesses are positively or negatively related to spiritual well-being?

Second, the relationship of denial to blood pressure warrants further exploration. This sample lacked high amounts of denial, and it would be interesting to see how that would impact upon blood pressure.

Third, the relationship between systolic and diastolic blood pressure is an area needing further research. What kind of variables impact upon one in contrast to the other? In this study most of the time when a variable was significantly correlated to systolic blood pressure it was correlated to diastolic blood pressure as well. However, this was not always the case.

Finally, it would be beneficial to replicate this project using a less homogenous sample. For example, it would be beneficial to find a sample with greater variations in denial, assertiveness, aggressiveness, conflict avoidance, spiritual well-being, and blood pressure, and see what relationships continue to exist.

Summary

This study produced several important findings. First, there were indications that the expression of aggression in passive ways is positively related to higher blood pressure. Higher scores on the Passive Aggressiveness Scale were positively correlated with systolic and diastolic blood pressure. There were some indications that the avoidance of conflict is also related to higher blood pressure, but this needs to be further explored.

On the other hand, verbal and physical aggressiveness are negatively related to higher blood pressure. This indicates, as was suspected, that it is important for aggressive and hostile impulses to be expressed, ideally in a constructive manner.

There were also some important findings regarding spiritual well-being. It was found that spiritual

well-being was negatively related to high blood pressure. It is being found increasingly that spiritual well-being is an important aspect to general well-being and quality of life. It was further found that spiritual well-being was positively related to self-confidence and general assertiveness and negatively related to aggressiveness as measured by the IBS.

These findings emphasize the role which spiritual well-being can play in our understanding of quality of life, not to mention overall happiness. For too long man's spiritual nature seems to have been placed in a lesser role behind physical and emotional well-being, and now is finally beginning to be placed in the important place which it deserves. It is concluded that our spiritual nature, long a neglected area of study, cannot be separated from physical and emotional well-being.

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Appendix A

Consent Form

CONSENT FORM

You are being asked to participate in a study of the relationship between interpersonal behavior traits and various measures of health. It will take approximately 45 minutes of your time, part of which can be done while waiting to see your physician. The remainder may be completed at home and returned to us in a stamped envelope which has been provided for you.

Your part in this important study is to answer the demographic questionnaire, a personal well-being scale, and an interpersonal behavior survey. Additionally, the staff will measure and record your blood pressure, height, weight and wrist size. In return for your participation, we will be happy to give you the general results of the study, and/or specific feedback on your particular interpersonal behavior traits. Please read carefully the paragraph below before signing.

I agree to answer the questions provided and have my blood pressure, height, weight and wrist size taken by the clinic staff. I understand that my name will not be used and that information I provide will be used only for research purposes. I further understand that I may see a summary of the study results at this office when available.

Signed_____

Date_____

ID#_____

Name_____

Address_____

_____

Phone # (s)_____

Interested in: (please check if appropriate)

____general results of study

____specific results of my interpersonal behavior traits

____neither

Appendix B

Demographic Questionnaire

I.D.#_____

BACKGROUND INFORMATION

1. Age: _____

2. Sex: _____ Male_____Female

3. Marital Status: ___Single ___Married

___Divorced ___Widowed

4. # of previous marriages____

5. Education _____(number of years of formal education)

6. Occupation(please check one):

____Professional, Technical & Managerial occupations

____Clerical & Sales occupations (e.g.. bookkeeper,sec'y.)

____Processing occupations (e.g. ore refining)

____Machine Trades occupations (e.g. mechanic, millwright)

____Benchwork occupations (e.g. radio repair)

____Structural work occupations (e.g. painter, carpenter)

____Service occupations (e.g. housework, cook)

____Agriculture, Fishery, Forestry & related occupations

Miscellaneous occupations:

____(e.g. truck driver, bus driver)

____None

7. Number of hours worked per week: _____

8. Annual family income:

_____ less than $5,000 per year
_____ $5,000-$9,999 per year
_____ $10,000-$14,999 per year
_____ $15,000-$19,999 per year
_____ $20,000-$29,999 per year
_____ $30,000-$49,999 per year
_____ $50,000 or more per year

9. Church affiliation:

_____ Catholic
_____ Jew
_____ Protestant-specify denomination:

_____

_____ Other:_____
_____ None

10. Frequency of church attendance:

_____ less than one time per year
_____ once or twice per year
_____ between 3 and 12 times per year
_____ between 1/month and 1/week
_____ weekly
_____ more than once/week
_____ not at all

11. Health History:

Height _____ Weight_____ Wrist size _____

Blood pressure_____

Presently treated for high blood pressure?_____

List any medication currently taken:_____

_____

_____

_____

_____

Indicate if any of your biological relatives (e.g. Parents; grandparents, uncles, brother or sister) have had the following conditions:
(Check which is appropriate)

	Yes	No		Yes	No
heart attack	____	____	leg ulcers	____	____
stroke	____	____	varicose veins	____	____
high blood pressure	____	____	congestive heart failure	____	____
kidney trouble	____	____	diabetes	____	____

12. Exercise Habits:

____ Number of hours per week you spend in physical exercise

Type of exercise:_____

13. Indicate your current diet: (Check all that apply)

_____ No dietary restrictions

_____ Low salt

_____ Low cholesterol

_____ Calorie restricted

_____ Diabetic (sugar restricted)

_____ Other

14. Indicate # of cigarettes currently smoked/day: _____

# of years of smoking _____

15. Indicate number of alcoholic drinks currently consumed per week:

_____ None

_____ 1 - 2

_____ 3 - 5

_____ 6 - 10

_____ 11 - 20

_____ More than 20

Appendix C

Spiritual Well-Being Scale

SPIRITUAL WELL-BEING SCALE[1]

For each of the following statements circle the choice that best indicates the extent of your agreement or disagreement as it describes your personal experience:

SA = Strongly Agree D = Disagree
MA = Moderately Agree MD = Moderately Disagree
A = Agree SD = Strongly Disagree

1. I don't find much satisfaction in private prayer with God.	SA MA A D MD SD
2. I don't know who I am, where I came from, or where I am going.	SA MA A D MD SD
3. I believe that God loves me and cares about me.	SA MA A D MD SD
4. I feel that life is a positive experience.	SA MA A D MD SD
5. I believe that God is impersonal and not interested in my daily situations.	SA MA A D MD SD
6. I feel unsettled about my future.	SA MA A D MD SD
7. I have a personally meaningful relationship with God.	SA MA A D MD SD
8. I feel very fulfilled and satisfied with life.	SA MA A D MD SD
9. I don't get much personal strength and support from my God.	SA MA A D MD SD
10. I feel a sense of well-being about the direction my life is headed in.	SA MA A D MD SD
11. I believe that God is concerned about my problems.	SA MA A D MD SD
12. I don't enjoy much about life.	SA MA A D MD SD
13. I don't have a personally satisfying relationship with God.	SA MA A D MD SD
14. I feel good about my future.	SA MA A D MD SD
15. My relationship with God helps me not to feel lonely.	SA MA A D MD SD
16. I feel that life is full of conflict and unhappiness.	SA MA A D MD SD
17. I feel most fulfilled when I'm in close communion with God.	SA MA A D MD SD
18. Life doesn't have much meaning.	SA MA A D MD SD
19. My relation with God contributes to my sense of well-being.	SA MA A D MD SD
20. I believe there is some real purpose for my life.	SA MA A D MD SD

[1] This title was purposely deleted from those distributed.

Appendix D

Correlational Matrix

Correlational Matrix

The following are Pearson's r correlations among the Background Information Questionnaire, Interpersonal Behavior Survey, and Spiritual Well-Being Scale.

Table 15

Correlations:	AGE	PREMAR	EDUC	CHURCH	SYSBP	DIASBP
Background Information						
AGE	1.00	.034	.102	-.000	.528***	.256**
PREMAR	.034	1.000	-.198*	-.119	.225*	.266**
EDUC	.102	-.198*	1.000	.260**	-.006	-.111
CHURCH	-.000	-.119	.260**	1.000	-.179*	-.140
SYSBP	.528***	.225*	-.006	-.179*	1.000	.746***
DIASBP	.256**	.266**	-.111	-.140	.746***	1.000
MEDS	.300**	.183	-.057	-.059	.379***	.384***
FAMILY	.181*	.244*	-.205*	-.023	.235*	.185*
DIET	.280**	.010	-.039	-.084	.146	.123
CIG	.029	.195*	-.065	-.250**	.062	-.088
YEARS	-.013	.289**	-.104	-.130	.077	.005
ALCOHOL	.091	-.115	-.184*	-.373***	.233*	.167
WTRATIO	.183*	.202*	-.296**	-.079	.549***	.524***

Table 15 (Continued)

Correlational Matrix

Correlations:	MEDS	FAMILY	DIET	CIG	YEARS
Background Information					
AGE	.300**	.181*	.280**	.029	-.013
PREMAR	.183*	.244*	.010	.195*	.289**
EDUC	-.057	-.205*	-.039	-.065	-.104
CHURCH	-.059	-.023	-.084	-.250**	-.130
SYSBP	.379***	.235*	.146	.062	.077
DIASBP	.384***	.185*	.123	-.088	.005
MEDS	1.000	.266**	.353***	-.052	.112
FAMILY	.266**	1.000	.085	-.021	.049
DIET	.353***	.085	1.000	.069	.190*
CIG	-.052	-.021	.069	1.000	.652***
YEARS	.112	-.049	.190*	.652***	1.000
ALCOHOL	-.012	-.053	-.057	.212*	.192*
WTRATIO	.359***	.421***	.192*	-.189*	-.022

Table 15 (Continued)

Correlational Matrix

Correlations:	ALCOHOL	WTRATIO
Background Information		
AGE	.091	.183*
PREMAR	-.115	.202*
EDUC	-.184*	-.296**
CHURCH	-.373***	-.079
SYSBP	.233*	.549***
DIASBP	.167	.524***
MEDS	-.012	.359***
FAMILY	-.053	.421***
DIET	-.057	.192*
CIG	.212*	-.189*
YEARS	.192*	-.022
ALCOHOL	1.000	.018
WTRATIO	.018	1.000

Table 15 (Continued)

Correlational Matrix

Correlations:	DE	IF	IM	CCR	HS	EA
Background Information						
AGE	-.028	-.087	-.068	-.160	-.148	-.130
PREMAR	-.018	.183*	-.163	.046	.035	.012
EDUC	-.059	-.131	-.002	-.240*	-.154	-.187*
CHURCH	.051	.063	.110	-.327***	-.274**	-.173
SYSBP	-.041	.003	-.034	.002	-.016	.064
DIASBP	.091	.083	-.028	-.069	-.049	-.086
MEDS	.078	-.062	-.030	-.168	-.111	-.107
FAMILY	.061	.195*	.188*	-.114	-.095	-.037
DIET	.028	-.089	-.101	.024	.064	-.022
CIG	-.085	.016	-.099	.124	.167	.019
YEARS	.074	.026	-.077	-.019	.018	-.056
ALCOHOL	-.199*	-.179*	.033	.053	.100	.026
WTRATIO	.004	.159	.001	.043	-.017	.081

Table 15 (Continued)

Correlational Matrix

Correlations:	DR	VE	PH	PA	SCR	SC
Background Information						
AGE	.131	-.028*	-.204*	.068	.064	.046
PREMAR	-.061	.022	.016	.356***	-.252**	-.218*
EDUC	-.086	-.129	-.149	-.331***	.340***	.328**
CHURCH	-.265**	-.057	-.124	-.304**	.140	.111
SYSBP	.204*	-.182*	-.148	.259**	.024	.070
DIASBP	.052	-.167	-.219*	.179*	-.085	-.043
MEDS	.154	-.234*	.020	.273**	-.201*	-.077
FAMILY	-.069	-.088	-.062	.176	.108	-.089
DIET	.154	-.060	-.031	.290**	-.078	-.100
CIG	.088	-.066	.144	.104	-.079	-.189*
YEARS	.005	-.185*	.048	.169	-.115	-.106
ALCOHOL	.137	-.011	-.063	-.150	.212*	.264**
WTRATIO	.128	-.150	.068	.299**	-.083	-.036

Table 15 (Continued)

Correlational Matrix

Correlations:	IA	DA	FR	PR	RE	RF
Background Information						
AGE	.108	.058	-.057	-.045	-.000	.299**
PREMAR	-.125	-.238*	-.162	-.254**	-.257**	-.152
EDUC	.185*	.254**	.204*	.309**	.282**	.314**
CHURCH	.076	.005	.029	.113	.075	.221*
SYSBP	.107	-.030	-.026	.011	.031	.036
DIASBP	.075	-.119	-.106	-.143	-.083	-.002
MEDS	-.117	-.210*	-.196*	-.034	-.116	-.011
FAMILY	-.057	-.186*	-.026	-.032	-.088	-.105
DIET	.042	-.070	-.050	.053	-.177	.076
CIG	.035	.026	-.045	-.150	-.206*	.012
YEARS	-.079	-.096	-.095	-.064	-.148	-.029
ALCOHOL	.154	.221*	.137	.114	.222*	.207*
WTRATIO	.028	-.171	-.052	-.127	.008	-.100

Table 15 (Continued)

Correlational Matrix

Correlations:	CA	DP	SH	RWB	EWB	SWB
Background Information						
AGE	.134	-.051	.065	.003	-.118	-.056
PREMAR	.165	.089	.168	-.074	-.226*	-.158
EDUC	-.214*	-.143	-.178*	.175	.077	.148
CHURCH	-.059	-.053	-.156	.754***	.432***	.693***
SYSBP	.134	.038	.019	-.230*	-.159	-.225*
DIASBP	.141	.029	.093	-.104	-.046	-.089
MEDS	.173	.124	.171	.006	-.051	-.020
FAMILY	.175	.024	.123	.055	-.043	.014
DIET	.150	.058	.012	.025	-.100	-.033
CIG	.142	-.096	.102	-.330***	-.186*	-.302**
YEARS	.186*	-.001	.079	-.186*	-.063	-.150
ALCOHOL	-.113	-.124	-.145	-.378***	.076	-.203*
WTRATIO	.122	.022	.101	-.029	-.079	-.057

Table 15 (Continued)

Correlational Matrix

Correlations:	DE	IF	IM	GGR	HS	EA
Interpersonal Behavior Survey						
DE	1.000	-.015	.325**	-.259**	-.196*	-.257**
IF	-.015	1.000	-.073	.279**	.246*	.045
IM	.325***	-.073	1.000	-.409***	-.301**	-.355***
GGR	-.259**	.279**	-.409***	1.000	.891***	.717***
HS	-.196*	.246*	-.301**	.891***	1.000	.571***
EA	-.257**	.045	-.355***	.717***	.571***	1.000
DR	-.073	.109	-.170	.621***	.644***	.386***
VE	-.329***	.280**	-.290**	.758***	.620***	.575***
PH	-.218*	.196*	-.313**	.633***	.607***	.554***
PA	-.030	.234*	-.402***	.278**	.202*	.265**
SGR	.026	-.277**	.138	.090	.120	.171
SC	.112	-.347***	.282**	-.133	-.072	.053
IA	-.124	-.091	.037	.139	.133	.185*
DA	-.029	-.210*	-.005	.193*	.206*	.198*
FR	-.004	-.352***	.101	.178*	.161	.338***
PR	.175	-.326***	.258**	-.052	.025	.110
RE	.010	-.331***	.201*	-.147	-.096	.055
RF	.025	-.192*	.036	-.039	.013	-.061
CA	.177*	.295**	.117	-.311**	-.229*	-.468***
DP	-.102	.081	-.177	-.020	-.074	.140
SH	.113	.140	-.203*	.003	-.030	-.145

Table 15 (Continued)

Correlational Matrix

Correlations:	DR	VE	PH	PA	SGR	SC
Interpersonal Behavior Survey						
DE	-.073	-.329**	-.218*	-.030	-.026	.112
IF	.109	.280**	.196*	.234*	-.277**	-.347***
IM	-.170	-.290**	-.313**	-.402***	.138	.282**
GGR	.621***	.758***	.633***	.278**	.090	-.133
HS	.644***	.620***	.607***	.202*	.120	-.072
EA	.386***	.575***	.554***	.265**	.171	.053
DR	1.000	.324**	.353***	.192*	.026	-.067
VE	.324**	1.000	.408***	.080	.172	-.020
PH	.353***	.408***	1.000	.168	.051	-.048
PA	.192*	.080	.168	1.000	-.555***	-.544***
SGR	.026	.172	.051	-.555***	1.000	.788***
SC	-.067	-.020	-.048	-.544***	.788***	1.000
IA	-.033	.157	.059	-.261**	.749***	.371***
DA	.183*	.187*	.094	-.431***	.790***	.533***
FR	.060	.231*	.121	-.387***	.752***	.555***
PR	-.033	-.026	-.019	-.431***	.659***	.764***
RE	-.104	-.072	.032	-.366***	.509***	.794***
RF	.083	.099	-.077	-.533***	.710***	.613***
CA	-.140	-.426***	-.221*	.453***	-.725***	-.568***
DP	-.062	-.101	.071	.462***	-.514***	-.355***
SH	.137	-.080	-.017	.327***	-.574***	-.458***

Table 15 (Continued)

Correlational Matrix

Correlations:	IA	DA	FR	PR	RE	RF
Interpersonal Behavior Survey						
DE	-.124	-.029	-.004	.175	.010	.025
IF	-.091	-.210*	-.352***	-.326***	-.331***	-.192*
IM	.037	-.005	.010	.258**	.201*	.036
GGR	.139	.193*	.178*	-.052	-.147	-.039
HS	.133	.206*	.161	.025	-.096	.013
EA	.185*	.198*	.338***	.110	.055	-.061
DR	-.033	.183*	.060	-.033	-.104	.083
VE	.157	.187*	.231*	-.026	-.072	.099
PH	.059	.094	.121	-.019	.032	-.077
PA	-.261**	-.431***	-.387***	-.431***	-.366***	-.533***
SGR	.749***	.790***	.752***	.659***	.509***	.710***
SC	.371***	.533***	.555***	.764***	.794***	.613***
IA	1.000	.498***	.543***	.366***	.136	.420***
DA	.498***	1.000	.594***	.420***	.357***	.632***
FR	.543***	.594***	1.000	.467***	.374***	.498***
PR	.366***	.420***	.467***	1.000	.504***	.416***
RE	.136	.357***	.374***	.504***	1.000	.384***
RF	.420***	.632***	.498***	.416***	.384***	1.000
CA	-.457***	-.645***	-.762***	-.447***	-.383***	-.485***
DP	-.273**	-.473***	-.270**	-.180*	-.094	-.534***
SH	-.520***	-.392***	-.421***	-.489***	-.259**	-.269**

Table 15 (Continued)

Correlational Matrix

Correlations:	CA	DP	SH	RWB	EWB	SWB
Interpersonal Behavior Survey						
DE	.177	-.102	.113	.219*	.271**	.272**
IF	.295**	.081	.140	-.058	-.244*	-.156
IM	.117	-.177	-.203*	.135	.332***	.248**
GGR	-.311**	-.020	.003	-.382***	-.307**	-.394***
HS	-.229*	-.074	-.031	-.305**	-.171	-.278**
EA	-.468***	.140	-.145	-.183*	-.158	-.194*
DR	-.140	-.062	.137	-.348***	-.120	-.281**
VE	-.426***	-.101	-.080	-.094	-.083	-.100
PH	-.221*	.071	-.017	-.100	-.089	-.108
PA	.453***	.462***	.327***	-.296**	-.498***	-.432***
SGR	-.725***	-.514***	-.574***	.133	.370***	.266**
SC	-.568***	-.355***	-.458***	.139	.403***	.285**
IA	-.457***	-.273**	-.520***	.084	.206*	.154
DA	-.645***	-.473***	-.392***	.011	.264**	.136
FR	-.762***	-.270**	-.421***	.134	.338***	.251**
PR	-.447***	-.180*	-.489***	.130	.291**	.225*
RE	-.383***	-.094	-.259**	.066	.242*	.160
RF	-.485***	-.534***	-.269**	.205*	.297**	.276**
CA	1.000	.365***	.423***	-.072	-.244*	-.165
DP	.365***	1.000	.111	-.031	-.199*	-.117
SH	.423***	.111	1.000	-.192*	-.296**	-.267**

Table 15 (Continued)

Correlational Matrix

Correlations:	RWB	EWB	SWB
Spiritual Well-Being Scales			
RWB	1.000	.566***	.915***
EWB	.566***	1.000	,850***
SWB	.915***	.850***	1.000

1-tailed Signif: *-.05 **-.01 ***-.001

Appendix E

Definitions

Appendix E

Definitions

Aggressiveness -- "Behavior that originates from attitudes and feelings of hostility toward others. The purpose of aggressive behavior is to attack other individuals or to exert power over them in some fashion" (Mauger and Adkinson, 1980, P. 1.).

Assertiveness -- "Behavior directed toward reaching some desired goal which continues in the direction of that goal in spite of obstacles in the environment or the obstacles of others" (Mauger and Adkinson, 1980, P. A.).

Spiritual Well-Being -- "Having one vertical dimension (connoting one's perception of relationship to God) and one horizontal dimension connoting one's perception of life, meaning or purpose, or satisfaction with one's existence" (Paloutzian and Ellison, 1979).

Interpersonal Behavior Traits -- Interpersonal behavior traits are here defined as those characteristics exhibited by an individual in his/her relating to others. This will include, but not be limited to, assertiveness

and aggressiveness, and the specific subscales used on the IBS.

Hypertension -- "Hypertension is generally defined as excessive pressure of the blood against the arterial walls. It is usually restricted to the condition in which resting systolic pressure is consistently greater than 140 mm Hg, the diastolic pressure is greater than 90 mm Hg, and the individual complains of the signs and symptoms of hypertension, also called high blood pressure" (Keane and Miller, 1972).

Appendix F

Data Array

Appendix F

Data Array

I.D. #, Age, Sex, Marital Status, Previous marriages, Education, Occupation, Hours of work, Income, Church affiliation, Church attendance, Height, Weight, Wrist size, Systolic blood pressure, Diastolic blood pressure, Medications, Family history of blood pressure, Medications, Family history of blood pressure, Hours of exercise, Type of exercise, Dietary restrictions, Number of cigarettes, Years smoked, Alcohol use, Weight ratio, Denial, Infrequency, Impression Management, General Aggressiveness, Hostile Stance, Expression of Anger, Disregard for Rights, Verbal Aggressiveness, Physical Aggressiveness, Passive Aggressiveness, General Assertiveness, Self Confidence, Initiating Assertiveness, Defending Assertiveness, Frankness, Praise, Requesting Help, Refusing Demands, Conflict Avoidance, Dependency, Shyness.

```
001 48 1 2 0 16  1 5 3 6 120  78 0 0  8 0 2  0  0 1
1.17  62 40 48 33 37 40 37 37 38 38 64 51 69 65 65 57
51 65 41 42 42             60  60  120

002 44 2 2 0 12  1 5 3 6  96  56 0 2 10 1 1  0  0 1
.87  61 41 52 36 37 38 35 42 42 35 65 56 64 64 59 65 52
65 44 37 50             60  59  119

003 30 1 2 0 18  1 5 3 5 102  74 0 1  0 X 1  0  0 1
.77  72 41 62 33 33 36 36 38 37 37 53 50 57 56 55 56 58
51 49 50 41             60  60  120

004 45 2 3 1 13  2 3 3 4 146  94 0 3  0 X 1 20  9 1
1.04  61 47 69 36 33 40 32 34 37 50 47 39 69 32 40 47
36 44 70 52 38             37  29  66

005 25 2 1 0 12 10 2 5 0 116  80 0 3  0 X 1 20 10 4
.95  61 47 52 47 51 37 47 42 50 44 49 39 49 59 48 42 42
58 61 41 59             17  55  72

006 26 2 2 1 12  2 6 3 1 130  84 0 3  7 1 3  0  0 1
1.33  55 41 49 47 49 47 47 45 42 62 39 47 34 43 44 51
47 51 68 54 55             43  42  85

007 50 2 2 0 13 10 5 5 0 144 100 1 4  4 0 2  0  0 1
1.24  66 41 52 35 33 40 36 34 46 59 28 34 36 33 37 42
36 43 65 59 75             40  41  81

008 53 2 2 0 17  2 2 3 6 108  70 0 1  3 0 1  0  0 1
.78  61 47 44 38 37 40 36 42 37 42 49 47 45 51 32 47 47
65 58 32 68             52  48  100

009 28 1 2 0 12  2 4 1 2 130  88 0 0  4 1 1  0  0 3
1.10  51 40 71 31 31 33 38 31 31 46 22 34 25 25 26 38
46 27 80 69 66             28  36  64

010 25 2 2 1 12  7 4 1 3 104  68 0 6  5 1 2  0  0 1
1.07  49 53 43 49 47 56 42 57 50 63 40 37 51 33 54 42
42 44 56 68 62             43  37  80

011 60 1 2 0 18  1 4 3 5 160  84 0 2  3 0 1  0  0 2
.98  45 40 53 35 33 37 37 35 43 36 54 57 50 56 46 61 57
58 63 57 54             60  58  118

012 60 2 4 0 16  1 3 3 5 172  90 1 5  7 0 4  0  0 0
1.41  49 41 59 41 42 45 52 42 46 47 50 47 49 41 51 65
42 58 61 48 54             57  45  102
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013 37 1 4 0  X  X 6 3 3 126  82 0 1 10 1 1  0  0 5
1.08  51 45 63 43 48 37 43 42 44 36 57 60 48 59 53 56
57 58 48 33 44            39  47  86

014 31 1 2 0 14  1 7 1 2 110  70 0 4  2 1 1  0  0 4
.97  51 45 61 41 43 37 48 47 44 37 62 48 63 53 56 56 41
58 43 46 44            42  54  96

015 25 2 2 0 13  2 4 3 6  96  64 0 1  2 1 1  0  0 0
.91  55 47 42 55 49 51 52 57 50 42 51 42 46 53 62 47 31
58 35 46 62            57  55  112

016 37 2 1 0 16  1 4 3 5  94  70 0 4  5 1 1  0  0 0
1.00  49 53 64 39 35 40 36 45 42 39 53 45 49 56 47 38
36 51 47 32 41            56  41  97

018 26 2 2 0 12  7 4 4 1 110  78 0 3  4 1 1  0  0 0
1.20  55 41 42 43 37 49 42 42 49 55 42 39 43 49 48 42
36 43 49 46 61            41  46  87

019 53 1 2 0 15  1 3 3 2 128  76 0 4 10 0 2  0  0 2
1.18  56 40 56 30 28 38 33 34 35 38 54 60 50 59 53 56
57 58 41 44 44            42  44  86

020 31 1 2 0 17  1 5 3 5 134  90 0 4  5 1 1  0  0 0
1.00  56 45 68 36 36 36 33 42 39 36 61 60 62 47 61 66
57 65 51 46 45            59  55  114

021 27 2 2 0 15 10 3 3 6 108  72 0 4  4 0 1  0  0 0
1.25  55 53 59 38 37 38 42 38 42 44 54 47 59 56 51 51
47 51 63 57 40            59  57  116

022 35 2 2 0 12 10 X 3 5 106  60 0 4  2 0 1  X  X 0
1.24  78 47 69 37 35 43 52 33 50 40 51 55 39 54 43 60
47 58 65 35 52            60  60  120

023 28 2 2 0 19  1 6 5 0  98  68 0 2  6 1 2  0  0 2
.87  55 47 62 46 47 40 42 52 42 42 62 66 63 62 54 65 63
51 47 46 38            38  54  92

024 40 2 2 0 16  7 5 3 6  96  74 0 2  0 0 1  0  0 3
.96  49 41 52 38 40 36 47 42 42 35 58 53 57 51 54 47 53
65 47 37 54            52  55  107

026 33 2 2 0 14  7 3 3 6 100  60 0 4  6 1 1  6  1 0
1.01  61 47 62 41 42 36 36 45 46 37 59 46 57 62 59 51
36 51 47 37 68            58  48  106
```

027 26 2 3 0 12 2 3 3 3 106 74 0 2 3 1 1 0 0 0
1.03 61 47 52 43 40 45 36 46 47 46 42 39 51 46 37 47
42 44 56 63 48 41 47 88

029 24 2 2 0 12 10 5 4 4 104 70 0 0 5 0 1 0 0 0
.98 66 41 59 44 44 47 42 45 46 49 42 50 34 43 48 51 63
30 49 52 54 58 50 108

032 36 2 2 0 12 7 4 3 6 114 92 0 4 5 0 3 0 24 2
1.14 72 47 62 38 42 36 47 34 37 39 44 42 46 41 51 56
31 51 58 50 48 60 60 120

033 31 2 2 0 16 2 3 3 5 104 78 0 2 5 1 1 0 0 0
.84 61 53 52 36 40 36 36 42 37 39 41 39 36 39 37 51 36
58 61 43 48 59 49 108

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