TYPE A BEHAVIOR AND SOCIAL SUPPORT IN
CORONARY HEART PATIENTS

DISSERTATION

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By

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There currently exists a large body of research associating the Type A behavior pattern with an increased risk of coronary heart disease. Further, studies in the area of social support and health suggest that an absence of supportive relationships may result in a decreased resistance to disease in general, both physical and psychological. The present study sought to integrate the Type A research and social support literature through a correlational investigation of the relationship between Type A behavior and perceived quality of social support in 46 male subjects undergoing out-patient treatment for symptomatic coronary disease. It was hypothesized that the Type A pattern would show a significant inverse relationship with perceived quality of social support.

The results revealed a negative correlation between Type A scores and perceived quality of support. Further, the Type A pattern was positively associated with reports of interpersonal stress. Both relationships remained significant when the effects of age on Type A scores were statistically controlled. No significant correlations were found between Type A scores and the other measures.
of support used (number of support categories, frequency of social contact, social network size, and subjective importance of support).

It is suggested that the low quality, stressful support systems associated with Type A behavior serve to exacerbate the risk factor effects of this pattern on the development of coronary heart disease. Conversely, strong supportive ties with others may reduce the likelihood of the eventual development of coronary disease in individuals exhibiting Type A characteristics. Further research utilizing non-coronary controls is warranted to investigate this relationship, its nature, prevalence, and treatment implications.
TABLE OF CONTENTS

LIST OF TABLES .................................................... iv

TYPE A BEHAVIOR AND SOCIAL SUPPORT IN CORONARY HEART PATIENTS

Introduction ................................. 1

Method ......................................... 15

Subjects
Materials
  Type A Scale
  The Dawley Social Inventory
  The Subjective Importance of Social Support Scale

Procedure
  Instrument Scoring

Statistical Design

Results ........................................... 20

Type A Behavior and Social Support
Interrelationships Among Social Support Measures
  Comparison of the Sample Type A Score
  Distribution to the Normative Distribution for the Jenkins Activity Survey
  Comparison of Type A and Type B Subjects on Demographic and Life-style Characteristics

Discussion ................................. 30

Appendices .................................... 40

References .................................... 47
LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Correlations Between Type A Scores and Social Support Measures</td>
<td>20</td>
</tr>
<tr>
<td>2.</td>
<td>Correlations Between Age and Income Level, Type A Scores, and Social Support Measures</td>
<td>22</td>
</tr>
<tr>
<td>3.</td>
<td>Intercorrelations Between Measures of Social Support</td>
<td>23</td>
</tr>
<tr>
<td>5.</td>
<td>Chi-square Analyses for Type A and Type B Responses to Demographic and Life-style Characteristics</td>
<td>27</td>
</tr>
</tbody>
</table>
TYPE A BEHAVIOR AND SOCIAL SUPPORT IN CORONARY HEART PATIENTS

In recent years medical researchers have found that certain types of behavior patterns may serve as risk factors in the development or exacerbation of specific disease states. Concurrently, researchers in the fields of epidemiology, social behavior, and public health have begun to generate evidence that the presence or absence of supportive social environments may play an important role in our resistance to disease in general, both physical and psychological. The present study involved an attempt to combine findings from these research areas, investigating the relationship between the Type A behavior pattern, linked in the medical research to coronary heart disease, and social support, seen in the epidemiological literature as a positive asset for health.

There currently exists a large body of research that associates Type A behavior, originally defined by Friedman and Rosenman (1959), with an increased risk of coronary heart disease (CHD). The Type A pattern is defined as a relatively enduring constellation of behaviors and attitudes involving time-urgency, ambitiousness, impatience, demandingness, overt competitiveness, and restlessness. Friedman (1969) describes Type A individuals as being "engaged in
a relatively chronic struggle to obtain an unlimited number of poorly defined things from their environment in the shortest period of time and if necessary, against the opposing efforts of other things or persons in the same environment" (p. 84). The Type B pattern, on the other hand, refers to the relative absence of these characteristics.

The first major prospective study that linked the Type A pattern to CHD was the Western Collaborative Group Study (WCGS). In this study of risk factors and CHD, 3500 men were followed over an eight and one half year period. Of the 1587 men assessed as exhibiting the Type A pattern at the beginning of the study, 178 or 11.2% of them had developed CHD by the final follow-up report, as compared to 5% of the men originally classified as Type B (Rosenman et al., 1964, Rosenman, Jenkins, Brand, Friedman, Strauss, & Wurm, 1975). Further analysis of the WCGS data revealed that the two-fold risk associated with the Type A pattern was independent of classical risk factors for CHD, such as age, systolic blood pressure, cigarette smoking, relative weight, and serum cholesterol (Brand, Rosenman, Scholtz, & Friedman, 1976). In addition, Type A individuals have been found to be at greater risk than their Type B counterparts with regard to recurrent myocardial infarction (Jenkins, Zyzanski, & Rosenman, 1976), and degree of coronary atherosclerosis as determined by arteriographic studies (Jenkins, 1976; Williams, Haney, Lee, Kong, Blumenthal & Whalen, 1980;
Results similar to those of the WCGS were found in the Framington Heart Study (Haynes, Feinleib, & Kannel, 1980). Unlike the WCGS which studied only men, the Framington study included both men and women, and both white and blue-collar workers in their target population, followed over an eight-year period. They found that Type A women were approximately twice as likely as Type B women to develop CHD, and three times more likely to develop angina symptoms. As in the WCGS, Type A behavior was associated with a two-fold risk of angina, myocardial infarction, and CHD in general. However, in the male participants, this association was found only among the white-collar workers. Haynes et al. (1980) also found that suppressed hostility (defined as not showing or discussing anger) was independently related to CHD in both male and female subjects.

The research findings on the general relationship between the Type A pattern and CHD in research populations in the United States and Europe has been extensively reviewed (e.g., Jenkins, 1976; Rowland & Sokol, 1977; Brand, 1978; Zyzanski, 1978; Dembrowski, Weiss, Shields, Haynes & Feinleib, 1978; Sparacino, 1979; Price, 1982). Taken as a whole, the results have consistently shown that individuals exhibiting the Type A pattern have a significantly greater risk of developing clinically evident CHD. Further, this relationship
has endured in the literature despite the use of several different methods of assessing the Type A pattern.

The WCGS utilized an interview technique, referred to as the Structured Interview (SI), which discriminated Type A from Type B patterns based on a variety of paralinguistic and response style characteristics in addition to the content of answers given to set questions regarding time-urgency, impatience, competition, job-involvement and ambitiousness. The motor characteristics associated with the Type A pattern included a loud and/or vigorous voice, terse, clipped enunciation, rapid speech, frequently abrupt and emphatic one-word answers to questions, and speech hurrying, among others (Rosenman, 1978). In spite of its subjective nature, catagorical agreements between trained interviewers using the SI have shown adequate levels of inter-rater reliability, ranging from 85 percent (Jenkins, Rosenman, & Friedman, 1965) to 95 percent (Sherwitz, Berton, & Lowenthal, 1977). Further, SI catagorizations have shown adequate stability over time (Keith, Lown, & Stare, 1965).

In efforts to assess this pattern in a more objective and economical fashion, there have been several paper and pencil questionnaires designed to measure the salient aspects of Type A behavior. The most widely researched of these is the Jenkins Activity Survey (JAS) developed in collaboration with the Western Collaborative Group. The JAS was derived from an item pool taken both from the questions on the SI and from clinical experience, selecting those particular
items that significantly discriminated between people classified as Type A and Type B (Jenkins, Rosenman, & Friedman, 1967). Refinement of the JAS yielded a composite Type A scale, and three subscales derived through factor analysis: Speed and Impatience, Job Involvement, and Hard-driving. While none of the three subscales have by themselves been found to predict CHD, the JAS Type A scale has been found to be significantly associated with CHD in a number of studies, both in the United States and abroad (see Jenkins, 1978). The JAS shows from 65 to 70 percent agreement with the SI (Brand et al., 1976). However, with extreme score groups (i.e., plus or minus one standard deviation from the mean of the distribution) JAS classifications show an agreement rate of approximately 90 percent with the SI (Jenkins, et al., 1967). Other measures of the Type A pattern include the Bortner Rating Scale (Bortner, 1969), and the Framington Type A behavior scale, used in the Framington Heart Study cited above (Haynes, Feinleib, Levine, Scotch, & Kannel, 1978; Haynes, et al., 1980).

In a detailed review of the available literature on the Type A pattern done by the Review Panel on Coronary Prone Behavior and Coronary Heart Disease sponsored by the National Heart, Lung and Blood Institute (1981), it was recommended that further research be devoted toward clarifying the social and emotional variables related to the Type A pattern and CHD. There have been a number of studies
done investigating psychological correlates of the Type A pattern. For example, in a study incorporating a variety of personality scales, Chesney, Lock, Chadwick, & Rosenman (1981), reported that Type A subjects showed significantly higher scores than Type Bs in the areas of aggression, autonomy, exhibition, self-confidence, dominance, extroversion, and impulsiveness, while Type Bs scores higher on self-control dimensions. They found little difference on measures of psychological distress, which included depression, anxiety, somatization and interpersonal insecurity. Interestingly, Type As showed significantly lower scores on a measure of counseling readiness, indicating a lack of motivation for psychological intervention, or perhaps a denial of problems. Dimsdale, Hackett, Lock, & Hutter (1978) found modestly significant correlations between Type A and depressive mood, accumulation of stressful life events, current tension, and anger, in contrast to the results of the Chesney et al. (1981) study. Carver and Glass (1978) reported that Type As responded with more interpersonal aggression to frustration of their problem-solving efforts than Type B subjects. Type As also performed significantly more poorly on tasks requiring a low rate of responding than did their Type B counterparts, and tended to show more signs of irritation and impatience when a cooperative task was deliberately slowed down by the subject's partner than did Type B subjects (Glass, Snyder, & Hollis, 1974).
The role of hostility and impatience with others, a principle subcomponent of the Type A pattern has also been researched by Williams et al., (1980) in a study involving 424 patients undergoing diagnostic coronary arteriography for suspected CHD. The hostility scale used was developed by Cook and Medley (1954), who described high-scoring individuals as being those who have little confidence in others, and who see others as dishonest, unsocial and mean. This description appears to be consistent with the overt hostility noted in Type A individuals in certain situations, as in the Carver and Glass (1978) study noted above. The researchers found that both Type A scores and high scores on the hostility measure were independently related to significantly higher rates of coronary arterial occlusion.

Price (1982) has speculated that the hard-driving, competitive, and sometimes hostile behavior of the Type A individual may lead in the short term to tension and conflict within social relationships, and in the long term, to poor quality social support systems and a lack of close, intimate friendships. She has further theorized that those Type A individuals who have low quality social support networks may be at a greater risk of CHD than Type As with high quality support. In other words, she has suggested that quality social support systems may mediate or lessen the risk-factor effects of the Type A pattern on the development of CHD.
However, to date little research has been conducted concerning either of these notions, despite growing evidence that a lack of a supportive social system may play an important role in the development of CHD as well as a variety of other illnesses.

Cobb (1976), in his review of the literature linked a lack of social support to health consequences ranging from "low birth weight to death, from arthritis through tuberculosis to depression, alcoholism and the social breakdown syndrome" (Cobb, 1976, p. 300). These data led researchers to hypothesize that people having access to adequate social support systems in the form of interested family, friends, and confidants will show fewer negative health effects, particularly under conditions of stress, than those not having this support (Cassel, 1976; Dean & Lin, 1977).

In Bruhn's research on "emotional drain" and myocardial infarction (Bruhn, McCrady, & duPlessis, 1968; Bruhn, 1980), it was found that individuals having difficulties with their marriage, problems with their employer, inability to communicate effectively with others, and frequent job changes were more likely to develop CHD than individuals not having these characteristics. He also emphasized the role of family and friends in altering these effects: "The negative effects of emotional drain can be offset or minimized by social support. Social support can be obtained from a variety of sources, such as spouse, children, friends, relatives, job, religion,
hobbies, social groups or organizations. ... Hence the assessment of emotional drain and the relative risk of a heart attack should be balanced by a consideration of the positive or supportive factors in an individual's life" (Bruhn, 1980, p. 105). Along the same lines, Theil, Parker, & Bruce (1973) in a retrospective study including age-matched controls, found a significantly higher frequency of divorce among men with myocardial infarction. Weiss (1973) reported significant differences in CHD mortality rates between married and never-married, divorced, and widowed subjects, despite no significant differences in serum cholesterol levels and blood pressure.

Berkman and Syme (1979) investigated the relationship between social support and all-cause mortality rates in a large sample of Alameda County, California, residents followed over a period of nine years. Their Social Network Index included measures of social contacts through marital status, contacts with close friends and relatives, church affiliations, and formal and informal group associations. Their results indicated that those individuals having many social contacts (i.e., high social support) had the lowest mortality rates, while people having the fewest contacts showed the highest. Further, this effect was shown to be independent of factors such as socioeconomic status, health practices, smoking, obesity, alcohol consumption, and amount
of physical activity. Miller and Ingham (1976) found that women lacking a social support network had significantly more complaints of tiredness, anxiety, and depression than did women reporting access to high levels of support. Andrews, Tennant, Hewson, & Schonell (1978) reported that expectations of help in a crisis from friends, neighbors, and relatives were negatively related to physical and psychiatric illness.

In addition to the main effects on health suggested by the above research, several studies have suggested that social support systems may serve as a "buffer" that mitigates between environmental stress and health consequences. For example, Nuckolls, Cassel, & Kaplan (1972) measured current stressors in the form of recent life changes, and "psychosocial assets" in 170 primaparae Army wives. Their support measure, The Adaptive Potential for Pregnancy (TAPPS) consisted of a questionnaire designed to measure the participants' feelings and perceptions concerning themselves, their pregnancies, and their relationships with their husbands, friends, family, and community. The results indicated that women having high life stress scores but low support had a significantly higher percentage of complications of pregnancy than those women with high stress scores but high support (91 percent versus 33 percent). Under conditions of low life change, however, there were no significant differences found between women having high
versus low support scores. Gore (1978) looked at the stress-buffering effects of social support in unemployed men. Her sample consisted of 100 blue-collar workers whose jobs were abolished due to factory closings. Measures of depression, illness symptoms, serum cholesterol and social support were taken at five points: after notification of the men but before the closings, one month after the closings, six months after the closings, and at one and two years after the closings. Social support was measured in terms of the participants' perceptions of wives, friends, and relatives as supportive versus unsupportive, frequencies of contacts, and perceived opportunities to engage in satisfying social activities. Gore found that men viewing themselves as unsupported showed higher levels of depression than supported men, with no decrease in levels of depression seen across measurement periods, even after most of the men had found employment. While no differences in illness symptoms were found between the groups, serum cholesterol levels showed a significant decrease across measurement intervals for the supported men, while levels for the unsupported group remained unchanged. The stress-buffering effects of social support have also been reported by Caplan (1972), Cobb & Kasl (1977), Lin, Ensel, Simeone, & Kuo, (1979), Eaton (1978), and LaRocco, House, and French (1980), among others.

A problem currently creating controversy among the social support researchers, however, relates to measurement.
It has been pointed out that, while the majority of researchers in this area seem to share an understanding of what social support is, specific conceptualizations of this factor, and thus measurements used, vary considerably from study to study, creating problems in comparing their results and implications for further research (LaRocco et al., 1980). In her review of the social support literature, Thoits (1982) points out that "most investigators have not attempted to formulate a precise conceptual definition of social support, and few have attempted to develop valid or reliable indicators of the concept" (p. 146). Many researchers have either failed to address the multidimensional nature of support or have offered definitions that are too limited or imprecise to provide for adequate measurement or general theoretical utility. Nuckolls et al. (1972) described psychosocial assets as "any psychological or social factors which contribute to a woman's ability to adapt to her first pregnancy" (p. 433). This definition was tied directly to the outcome measures in that particular study, and thus has little use for research concerning other outcome measures. Lin, Dean, & Ensel (1981) refer to support as that "support accessible to an individual through social ties to other individuals, groups, and the larger community...resources that are available to the individual in a crisis" (p. 74). This definition, while having potentially broader applicability, is imprecise, and "support" and "resources" are undefined.
Such differences in definitions have led to differing methods of assessment. Some researchers (e.g., Myers, Lindenthal, & Pepper, 1975; Eaton, 1978; Lowenthal & Haven, 1968) have derived social support from specific demographic information, such as the presence or absence of a spouse, whether the person lives alone or with others, etc. Others (e.g., Berkman & Syme, 1979) have used quantitative indices consisting of numbers of sources and frequencies of contacts. However, such structural measures assume that the availability of a large network or frequent social contact is equivalent to a high level of support. This is a questionable assumption as not all social ties possessed by an individual are necessarily going to be supportive in nature (Wellman, 1981). Thus, Schaefer, Coyne, and Lazarus (1981) have emphasized the importance of measuring the quality of social support as perceived by the individual, in addition to structural or quantitative measures, as different measures may have different relationships to health outcomes. For instance, in one study (Andrews et al., 1978) the subjects' expectations of help in a crisis (which may be viewed as a form of perceived support) were found to be negatively related to psychological impairment, while quantitative measures taken were not.

For the purposes of the present study, social support was defined following Kaplan (1977) and Thoits (1982) as the degree to which as individual's social needs (e.g., companionship, feeling of being accepted and/or liked by
others, availability of help in a crisis, trust, and opportunity for expression of feelings and concerns) are met through interactions with others. A recently developed scale, the Dawley Social Inventory (DSI) represents an improvement over the indices described above (Dawley, Winstead, & Giles, 1980). The DSI provides a multidimensional index of social support, including measures of both structural or quantitative aspects of support systems (sources of support, frequency of contact, and network size or density), and functional or qualitative properties (perceived quality of support, and stress within the social network). Recent data have also shown the DSI to have test-retest reliability ranging from 75 to 85%, and validity studies are currently in progress (Dawley, 1983).

The present study sought to integrate the Type A research and social support literature through a correlational investigation of the relationship between the Type A behavior pattern, already established as a risk factor for CHD, and quality of social support in male subjects undergoing treatment for coronary disease. Following the speculations of Price (1982) that characteristics which typify the Type A pattern (competitiveness, time-urgency, restlessness, impatience, and interpersonal hostility) may serve to hinder the development and maintenance of close supportive relationships, the following hypothesis was made: The Type A pattern, as
measured by the JAS Type A scale, will show a significant negative relationship with quality of social support, as indexed by the DSI.

As suggested in the opening paragraph of this introduction, this study was designed as an exploratory one, its purpose being to determine whether or not there is in fact a relationship between Type A behavior and levels of perceived social support. The coronary population was chosen due to the relatively high incidence of the Type A pattern typically found in this group. Support of the above hypotheses will serve to provide the groundwork for further research into this relationship, utilizing noncoronary controls, as well as predictive studies that take into account both Type A characteristics and levels of social support as risk factors for CHD. Thus, the present study should be viewed as an initial step in an area thus far largely unexplored.

Method

Subjects

Subjects consisted of 46 male volunteers solicited from a population of patients undergoing treatment through the Heart Clinic of a Veterans Administration Hospital located in a major city in the southern United States. At the time of the study, all were being treated on an outpatient basis for symptomatic coronary heart disease. They ranged in age from 29 to 73 years, with a mean age of 52.9
years. Fifty-eight percent of the subject sample were white, while 42% were Black. With regard to employment status, 30.4% were employed at the time of the study, 58.7% described themselves as disabled, 8.7% were retired, and 2.2% were unemployed. No payments or other compensations were offered in exchange for participation in the study.

Materials

**Type A Scale.** The Type A Scale of the Jenkins Activity Survey, Form C (Jenkins, Zyzanski, & Rosenman, 1979) was used to assess degree of Type A characteristics. This scale was chosen for the present study because of its objective nature, ease of administration, and the fact that it has been significantly associated with CHD in numerous studies (Jenkins, 1978).

**The Dawley Social Inventory.** Social support was measured by the Dawley Social Inventory (DSI). Part I of this instrument contains items regarding various demographic and life-style characteristics such as health status, tobacco and alcohol use, satisfaction with life, current living situation, participation in church and social clubs, employment status, marital status, ethnic group, and recent life changes. Part II provides indices of five dimensions of social support: a) categories of support sources (mother, father, spouse, children, other relatives, best friends, other friends, and co-workers); b) perceived quality of support (the extent to which the respondent feels he or she
is cared for, enjoys being with support sources, can express true feelings with sources, can trust others, and can turn to them for help); c) frequency of contact (how often the respondent is in contact with support sources); d) stress within the support network (the extent to which the respondent is angered, made anxious, or treated badly by his or her support sources); and e) density of support (the number of people included in each support category). The DSI was chosen to measure social support because of its multidimensional nature and ability to provide both quantitative information (e.g., number of categories, frequency of contact, and density) and qualitative indices of support (perceived quality of support, and stress within the support network). The DSI is included in Appendix A.

The Subjective Importance of Social Support Scale. An experimenter-designed scale was included to assess the importance with which subjects viewed supportive relationships. This scale consisted of 10 statements concerning attitudes toward relationships, five of which reflected positive attitudes, while the other five described negative feelings. The order of the items was randomized, and each statement was rated by subjects on a one to four scale according to the extent to which it was seen as characteristic of their attitudes regarding the importance of support. This scale is included in Appendix B.
**Procedure**

All subjects were asked to complete the Type A scale, the DSI, and the Subjective Importance of Social Support scale according to the instructions provided on each of the instruments. Prior to their involvement, they were told that their identities would be kept confidential, and that they may withdraw their consent to participate in the study at any time they so desire. Following this, they were asked to read and sign an informed consent agreement prior to beginning the questionnaires. The informed consent document is included in Appendix C.

**Instrument scoring.** Scoring of the Type A scale was conducted according to the standard instructions provided with the instrument (Jenkins et al., 1979).

The DSI was scored for demographic and life-style characteristics in Part I, and for the five dimensions of social support in Part II. The latter scores were derived in the following fashion. The *Categories of Support* score consisted of the number of support categories completed by the subject. *Perceived Quality* of support was determined by summing the ratings given in items 1 through 7 for each support category, adding these sums across categories, and then dividing the obtained total by the number of categories completed. The same computations were made for items 8 and 9 to obtain the *Frequency of Contact* score, and likewise for items 10 through 12 for the *Stress Within the Social Network* score. *Density of Support* was assessed by totaling the number of people listed for each source across categories.
The Subjective Importance of Social Support scale was scored by summing the ratings given for each item. As items 1, 3, 7, 8, and 9 reflected negative attitudes toward social support, the signs on these items were reversed prior to totaling the score.

Statistical Design

Pearson product-moment correlations were used to determine the relationships between Type A scores and the social support indices. As age and socio-economic status have previously been reported to be significantly related to the Type A behavior pattern (Shekelle, Shoenberger, & Stanler, 1976), correlations were obtained between age and income level and Type A and support measures. Partial correlations were then computed for variables with which age and/or income were found to significantly correlate in order to control for their influence on the Type A—social support relationships. Intercorrelations between all social support variables were also calculated.

The Type A score distribution obtained from the study sample was compared to that of the normative population by converting the obtained raw scores to standard scores based on the mean and standard deviations of the normative distribution (Jenkins et al., 1979). A t-test was then used to assess the difference between the means.

Differences between Type A and Type B subjects in demographic and life style characteristics were obtained
through the use of chi-square analyses. Type A subjects were defined as those whose Type A scores were included in the top 30% of the obtained score distribution, while Type Bs consisted of those subjects scoring within the bottom 30% of the distribution. Subjects were then compared according to their responses to items regarding life satisfaction, living arrangements, participation in clubs and/or socio-fraternal organizations, church involvement, pet ownership, employment status, ethnic group, marital status, self-reported health status, relationships with neighbors, enjoyment of neighborhood, education level, alcohol use, and tobacco use.

**Results**

**Type A Behavior and Social Support**

The results of the correlational analyses between Type A scores and social support variables are shown in Table 1.

**Table 1**

<table>
<thead>
<tr>
<th>Categories</th>
<th>Quality</th>
<th>Frequency</th>
<th>Stress</th>
<th>Density</th>
<th>Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type A</td>
<td>.147</td>
<td>-.3434*</td>
<td>-.023</td>
<td>.2952*</td>
<td>-.063</td>
</tr>
</tbody>
</table>

*p < .05, 2-tailed test of significance
As can be seen, Type A scores showed a significant negative correlation with perceived quality of social support, \( r (44) = -.3434, p < .05 \). In other words, subjects scoring high in Type A characteristics tended to report low quality in their support systems, while those subjects scoring low in the Type A pattern described their social interactions as correspondingly more supportive. Relatedly, Type A scores were found to correlate in a positive direction with reports of stress within the social network, \( r (44) = .2952, p < .05 \). High levels of the Type A pattern were associated with greater amounts of interpersonal stress, whereas subjects at the lower end of the Type A scale indicated lesser amounts of stress in their relationships. Perceived quality scores and stress within the social network were the only indices found to covary with Type A behavior. Correlations between Type A scores and categories of support, frequency of contact, network density, and subjective importance of support all failed to reach significance.

Correlation coefficients for age and income levels with Type A scores and social support measures are shown in Table 2. Age in the present sample correlated negatively with Type A scores at a significant level, \( r (44) = -.2837, p < .05 \). As subject age increased, reported levels of the Type A pattern decreased, while younger subjects exhibited correspondingly higher levels of Type A characteristics.
Table 2

Correlations Between Age and Income Level, Type A Scores, and Social Support Measures

<table>
<thead>
<tr>
<th>Type A Categories</th>
<th>Quality</th>
<th>Frequency</th>
<th>Stress</th>
<th>Density</th>
<th>Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-.2837**</td>
<td>-.3265*</td>
<td>.2167</td>
<td>.0750</td>
<td>.0133</td>
</tr>
<tr>
<td>Income</td>
<td>.0131</td>
<td>.2012</td>
<td>-.0983</td>
<td>.1164</td>
<td>-.0208</td>
</tr>
</tbody>
</table>

*p < .05, 2-tailed test of significance

**p < .05, 1-tailed test of significance

Age was also found to relate negatively to number of support categories, $r (44) = -.3265$, $p < .05$. Older subjects tended to report fewer categories of support, while as subject age decreased, greater numbers of categories were indicated. All other correlations between age and social support measures, however, failed to reach significance. Similarly, income level did not correlate significantly with Type A scores, nor with any of the social support measures.

Because of the significant inverse relationship between age and the Type A behavior pattern, partial correlations were computed between Type A scores and both perceived quality of support and stress within the social network, holding the effects of age constant. The resulting coefficients remained significant and in the same directions as described above, again showing the Type A pattern
to be inversely related to quality of support ratings, partial $r (43) = -.3040, p < .05$, while positively correlated with reports of interpersonal stress, partial $r (43 = .3024, p < .05$.

**Interrelationships Among Social Support Measures**

The intercorrelations between the measures of social support used in the present study revealed several significant relationships. The resulting matrix is shown in Table 3.

**Table 3**

**Intercorrelations Between Measures of Social Support**

<table>
<thead>
<tr>
<th>Scale</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Categories of Support</td>
<td>.091</td>
<td>.291*</td>
<td>-.246</td>
<td>.219</td>
<td>.292*</td>
</tr>
<tr>
<td>2. Perceived Quality</td>
<td>.556**</td>
<td>-.408**</td>
<td>.192</td>
<td>.681**</td>
<td></td>
</tr>
<tr>
<td>3. Frequency of Contact</td>
<td></td>
<td>.019</td>
<td>.273</td>
<td>.544**</td>
<td></td>
</tr>
<tr>
<td>4. Stress</td>
<td></td>
<td>-.211</td>
<td>-.375**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Density</td>
<td></td>
<td></td>
<td></td>
<td>.259</td>
<td></td>
</tr>
<tr>
<td>6. Subjective Importance</td>
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</table>

* $p < .05$
** $p < .01$
As can be seen, frequency of contact was found to be positively related to both categories of support, \( r (44) = .291, p < .05 \), and quality of support, \( r (44) = .566, p < .01 \). In other words, subjects reporting frequent interpersonal contact within their social systems tended to report a greater number of categories and described their network as qualitatively more supportive than subjects reporting less frequent contacts. Perceived quality of the support system was shown to be inversely related to reports of stress within the social network, \( r (44) = -.408, p < .01 \). Higher quality ratings were significantly associated with lower reported stress, while low quality of support scores corresponded to higher levels of stress within the network.

Subjective importance of support was found to be positively related to number of support categories, \( r (44) = .292, p < .05 \); perceived quality of support, \( r (44) = .691, p < .01 \); and frequency of contact scores, \( r (44) = .544, p < .01 \). Further, a negative relationship was found between subjective importance and stress scores, \( r (44) = -.375, p < .01 \). In other words, subjects who perceived social support as important showed a relatively higher number of available categories of support, rated the quality of their support as greater, and reported more frequent social contact relative to those whose subjective importance scores were low. Further, high importance scores tended to correspond with low levels of reported interpersonal stress, while low importance ratings
were associated with higher stress ratings. Finally, density of support (number of people within the individual's support system) failed to correlate significantly with any of the other support measures utilized in the present study. Means and standard deviations for all support indices are shown in Table 4.

Table 4

Means and Standard Deviations for Social Support Measures

<table>
<thead>
<tr>
<th>Scale</th>
<th>( \bar{X} )</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Categories of Support</td>
<td>4.43</td>
<td>1.38</td>
</tr>
<tr>
<td>Perceived Quality</td>
<td>22.16</td>
<td>4.34</td>
</tr>
<tr>
<td>Frequency of Contact</td>
<td>4.90</td>
<td>1.42</td>
</tr>
<tr>
<td>Stress Within Network</td>
<td>4.99</td>
<td>1.70</td>
</tr>
<tr>
<td>Density</td>
<td>15.58</td>
<td>10.05</td>
</tr>
<tr>
<td>Subjective Importance</td>
<td>5.56</td>
<td>4.51</td>
</tr>
</tbody>
</table>

Comparison of the Sample Type A Score Distribution to the Normative Distribution for the Jenkins Activity Survey

The Type A score distribution obtained in the present study was compared to the normative distribution by converting the obtained raw scores to standard scores based on the mean and standard deviation of the normative group. The mean Type A score for the present sample was thus found to be \( -.26, \ SD = 1.015 \), compared to a standard mean of 0.0, \( SD = 1.0 \).
A t-test revealed no significant difference between the obtained mean and that of the normative distribution, $t(45) = 1.737, \ p > .05$.

**Comparison of Type A and Type B Subjects on Demographic and Life-Style Characteristics**

For the purpose of comparing subjects' responses to demographic and life-style items from Part I of the Dawley Social Inventory, Type A subjects were defined as those whose scores fell within the upper 30% of the obtained distribution ($n = 14$), while Type Bs were considered to be those scoring within the lower 30% ($n = 14$). Chi-square tests were conducted to determine differences between the responses of Type As and Type Bs. The results of these analyses are presented in Table 5. Because of the small ns involved in these comparisons, the chi-square analysis could not be performed on certain items, as expected frequencies fell below the minimum required for the use of this test. These items included life satisfaction, living arrangements, participation in clubs and/or socio-fraternal organizations, pet ownership, employment status, relationships with neighbors, enjoyment of neighborhood, and level of education. However, by considering the percentage data presented in Table 5, it can be seen that in all of the above areas except relationships with neighbors and employment status, the responses given by Type As tended to be comparable to those of the Type B subjects.
Table 5

Chi-square Analyses for Type A and Type B Responses to Demographic and Life-style Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Type A (%)</th>
<th>Type B (%)</th>
<th>( x^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Satisfaction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfied</td>
<td>10 (71.4)</td>
<td>11 (78.6)</td>
<td>NA†</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>4 (28.6)</td>
<td>3 (21.4)</td>
<td></td>
</tr>
<tr>
<td>Living Arrangement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live with others</td>
<td>4 (28.6)</td>
<td>5 (35.7)</td>
<td>NA†</td>
</tr>
<tr>
<td>Live alone</td>
<td>10 (71.4)</td>
<td>9 (64.3)</td>
<td></td>
</tr>
<tr>
<td>Participation in Clubs and/or Socio-Fraternal Organizations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participate</td>
<td>4 (28.6)</td>
<td>2 (14.3)</td>
<td>NA†</td>
</tr>
<tr>
<td>Do not participate</td>
<td>10 (71.4)</td>
<td>12 (85.7)</td>
<td></td>
</tr>
<tr>
<td>Church Involvement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attend regularly</td>
<td>7 (50.0)</td>
<td>4 (28.6)</td>
<td>1.346</td>
</tr>
<tr>
<td>Do not attend</td>
<td>7 (50.0)</td>
<td>10 (71.4)</td>
<td></td>
</tr>
<tr>
<td>Pet Ownership</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Own pet(s)</td>
<td>4 (28.6)</td>
<td>3 (21.4)</td>
<td>NA†</td>
</tr>
<tr>
<td>Do not own pet(s)</td>
<td>10 (71.4)</td>
<td>11 (78.6)</td>
<td></td>
</tr>
<tr>
<td>Employment Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>6 (42.8)</td>
<td>1 (7.2)</td>
<td>NA†</td>
</tr>
<tr>
<td>Disabled</td>
<td>8 (57.2)</td>
<td>10 (71.4)</td>
<td></td>
</tr>
<tr>
<td>Retired</td>
<td>0 (0.0)</td>
<td>3 (21.4)</td>
<td></td>
</tr>
<tr>
<td>Ethnic Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>11 (78.6)</td>
<td>5 (35.7)</td>
<td>5.25*</td>
</tr>
<tr>
<td>Black</td>
<td>3 (21.4)</td>
<td>9 (64.3)</td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>9 (64.3)</td>
<td>8 (57.1)</td>
<td>.1497</td>
</tr>
<tr>
<td>Unmarried</td>
<td>5 (35.7)</td>
<td>6 (42.9)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Type A (n = 14)</td>
<td>Type B (n = 14)</td>
<td>( \chi^2 )</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td>--------------</td>
</tr>
<tr>
<td><strong>Health Status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>1 (7.2)</td>
<td>2 (14.3)</td>
<td>NA†</td>
</tr>
<tr>
<td>Average</td>
<td>3 (21.4)</td>
<td>3 (21.4)</td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>10 (71.4)</td>
<td>9 (64.3)</td>
<td></td>
</tr>
<tr>
<td><strong>Relationship with Neighbors</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrequently or never with them</td>
<td>6 (42.9)</td>
<td>3 (21.4)</td>
<td>NA†</td>
</tr>
<tr>
<td>Occasionally or frequently talk with them</td>
<td>8 (57.1)</td>
<td>11 (78.6)</td>
<td></td>
</tr>
<tr>
<td><strong>Enjoyment of Neighborhood</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Like neighborhood</td>
<td>12 (85.7)</td>
<td>13 (92.8)</td>
<td>NA†</td>
</tr>
<tr>
<td>Dislike neighborhood</td>
<td>2 (14.3)</td>
<td>1 (7.2)</td>
<td></td>
</tr>
<tr>
<td><strong>Education††</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did not finish high school</td>
<td>4 (33.3)</td>
<td>5 (45.5)</td>
<td>NA†</td>
</tr>
<tr>
<td>High school degree</td>
<td>3 (25.0)</td>
<td>3 (27.3)</td>
<td></td>
</tr>
<tr>
<td>Some college</td>
<td>5 (41.7)</td>
<td>2 (18.2)</td>
<td></td>
</tr>
<tr>
<td>College graduate</td>
<td>0 (0.0)</td>
<td>1 (9.0)</td>
<td></td>
</tr>
<tr>
<td><strong>Alcohol Use</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5 (35.7)</td>
<td>7 (50.0)</td>
<td>.5833</td>
</tr>
<tr>
<td>No</td>
<td>9 (64.3)</td>
<td>7 (50.0)</td>
<td></td>
</tr>
<tr>
<td><strong>Tobacco Use</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>6 (42.9)</td>
<td>4 (28.6)</td>
<td>.6222</td>
</tr>
<tr>
<td>No</td>
<td>8 (57.1)</td>
<td>10 (71.4)</td>
<td></td>
</tr>
</tbody>
</table>

*\( p < .05 \).*
†NA indicated \( \chi^2 \) not computed as expected frequencies did not meet minimum requirements for test.
†††Some data not available, thus \( n < 28 \).
With regard to relationships with neighbors, 42.9% of the Type A subjects reported that they "infrequently or never" spoke with their neighbors, as compared with 21.9% of the Type B subjects. A larger difference was seen in employment status, with 42.8% of the Type A group reporting being employed, compared to only 7.2% of the Type B subjects. Approximately equal numbers reported themselves as disabled (57.2% versus 71.4%), while 21.4% of the Type B subjects were retired as compared to 0.0% of the Type A group. No significant differences were found in the areas of church involvement, $\chi^2 (1, n = 28) = 1.345, p > .05$, marital status, $\chi^2 (1, n = 28) = .1443, p > .05$, use of alcohol, $\chi^2 (1, n = 28) = 1.103, p > .05$, or use of tobacco, $\chi^2 (1, n = 28) = 2.488, p > .05$. However, Type As were found to differ significantly from Type B subjects with regard to ethnic characteristics in that the Type A group consisted of 78.6% whites and 21.4% blacks, while the Type B sample was comprised of 35.7% whites and 64.3% blacks, $\chi^2 (1, n = 28) = 5.25, p < .05$.

Finally, as age was found to correlate in a negative direction with Type A scores, the ages were compared for Type A and Type B subjects. The obtained mean ages were found to be 49.14 and 57.14 years respectively. This difference was significant, $t (26) = 2.283, p < .05$. 
Discussion

The results obtained support the hypothesis that the Type A pattern is significantly related in an inverse fashion with perceived social support in the coronary population. A related finding serving to strengthen this position is that Type A scores were shown to correlate positively with reports of stress within the social network. In other words, as the level of Type A behavior increases, one finds corresponding decreases in quality of support, and increases in levels of interpersonal stress. Further, both results were found to remain significant when age effects on the Type A pattern were statistically controlled.

These relationships are consistent with the speculations of Price (1982) regarding the long and short term effects of the Type A pattern on social support. In the short term, Type A characteristics such as impatience, competitiveness, time-urgency, restlessness, and hostility seem to lead to increased levels of stress and conflict within the interpersonal sphere. As described above, high Type A scores do correlate significantly with increased reports of stress within the social network. Price (1982) further states that such interactions have the long term outcome of creating social support systems characterized by conflict, suspiciousness, and distrust. Again, this coincides with the present finding that Type A scores correlate in a negative direction with perceived quality of support.
The significance of these results lies in the role social support plays in health outcomes. The literature suggests that strong social support systems have beneficial main effects on health (Cobb, 1976; Berkman & Syme, 1979; Andrews et al., 1978). It has also been shown that such support may serve as a buffer against the harmful effects of stress (Nuckolls et al., 1972; Gore, 1978; LaRocco et al., 1980). Price (1982) theorizes that, in a similar way, social support in Type As may buffer or mediate the risk factor effects of this pattern on the eventual development of clinically evident CHD. In other words, it may be that Type As having strong social support systems are less likely to develop CHD than Type As with poor quality support systems. The present study dealt with only those individuals currently evidencing CHD, and the Type A pattern was, in fact, associated with low quality support systems, in conjunction with correspondingly higher levels of interpersonal stress. Additional research using non-coronary controls is needed to further explore this relationship, and to determine whether social support indeed serves to lessen the impact of the Type A behavior on the development of CHD.

It would also be of interest to ascertain whether certain behaviors discriminate between Type A individuals who have high quality support systems and those who do not develop such relationships. It is likely that some aspects
of the pattern (e.g., competitiveness, suspiciousness, and interpersonal hostility) are more socially detrimental than others (e.g., time-urgency and achievement-striving). Such information could have important implications for the development of procedures to modify or reduce the socially harmful effects of the Type A pattern.

No significant relationships were seen in the present sample between the Type A pattern and the quantitative support measures used in the study (i.e., number of categories, frequency of social contact, and network density). These findings imply that participants scoring in the Type A direction had access to social networks that were comparable in terms of size and availability of contact to those reported by participants scoring in the Type B direction. Thus, the difference in social support associated with Type A behavior appears to lie primarily in the qualitative areas described above (i.e., perceived quality of support and interpersonal stress) rather than in the quantity of such relationships.

Further, the finding that Type A scores correlated significantly with qualitative measures while failing to relate to quantitative indices serves to emphasize the importance of using a multidimensional assessment approach in social support research as discussed earlier, and stressed by Schaefer et al. (1981). In the present study, had only
quantitative or network measures been used, no significant relationships between the Type A pattern and social support would have been found.

The intercorrelations among the various support measures are as one might have expected. Frequency of contact was associated positively with both number of support categories and perceived quality measures, while showing an inverse relationship with interpersonal stress. This suggests that, independent of Type A characteristics, individuals having frequent contact with others and several categories of support sources tend to have correspondingly higher quality support systems. The failure of density (number of people within the support system) to relate significantly with any of the other support indices may be due in part to the wide range in reported scores found in this sample. Participants had some difficulty completing this portion of the DSI, in that it appears difficult to list an absolute number of people for each category of support (e.g., number of friends, number of co-workers, etc.).

A somewhat unexpected result is that subjective importance of social support did not correlate significantly with Type A scores. As high scoring Type As have been characterized in the literature as being motivated primarily by the accumulation of accomplishments and material objects rather than by their relationships with others, it seemed likely that Type A scores would show a negative relationship with importance of support.
However, this could be an artifact of the present sample, which contained a relatively high proportion of disabled individuals. CHD and related disabilities may serve to increase dependence on others, and thus, to increase subjective importance of support. Additional study involving non-coronary controls is needed to clarify this issue.

While Type A scores failed to relate to subjective importance, the latter correlated with all support measures except density. These correlations suggest that the importance people place on supportive relationships may have an important influence on the quality of their support system. Conversely, it is possible that individuals having quality support systems tend to view such support as important. Likewise, those who tend not to "care" about relationships with others are likely to report correspondingly lower quality systems and higher stress levels; or, perhaps having a poor quality, high stress social system leads to individuals not viewing support as important.

The possible relationship between attitudes concerning the importance of supportive interactions and associated levels of social support has not yet been considered in the support literature. It may be that people who view relationships as important derive greater benefits from social support than those who do not. Further research will be necessary to address this issue and its implications.
When high-scoring Type As in the present sample were compared to low-scoring Type Bs with regard to demographic and life style characteristics, few differences were found. There was a trend toward a difference in employment status, as considerably more Type As than Type Bs reported being employed, but the difference could not be statistically tested due to the small number of participants involved. A possible explanation of this trend is that Type A individuals tend to be more ambitious, driven, and achievement oriented than Type Bs, and therefore, more likely to be employed regardless of restrictions placed on them by CHD. However, in the present subsample, this issue is confounded by age differences between the groups. High scoring Type As were found to be, on the average, eight years younger than their Type B counterparts. Three of the Type Bs had already retired. Thus, the difference seen could simply be a function of age-effects rather than a result of the Type A pattern. The relatively high percentage of disabled subjects included in both groups further confuses this matter. Thus, no clear statement regarding Type A—Type B differences in employment status can be made.

The only significant difference besides age to emerge from these comparisons concerned racial composition of the groups. The Type A subsample was predominantly made up of white participants, whereas the Type B group was comprised
mostly of blacks. This is consistent with previous reports that black males tend to score more in the Type B direction on the JAS than white males (see Zyzanski, 1978). However, Shekelle et al. (1975) have shown that these differences disappear if occupational level is controlled. Such control was not used in the present study, due to the large proportion of disabled participants in the sample.

The CHD population was chosen for this study because, typically, a higher percentage of Type A individuals than Type Bs are found among coronary patients. In the Western Collaborative Group Study (Rosenman et al., 1975), for instance, over twice as many Type As than Type Bs were found among the participants who ultimately developed CHD. In the present sample, however, a higher proportion of Type A subjects was not found. No difference was seen when comparing the obtained mean Type A score to that of the normative population, which was comprised almost entirely of non-coronary males. In fact, the mean of the study sample was in the Type B direction, although not significantly so.

This discrepancy may be understood by considering differences between the present sample and those previously reported. Most studies on Type A behavior and CHD have utilized employed, white, upper middle-class males. The sample of this study, however, contained 42% blacks, and only 30.4% of the participants were employed at the time
of the study. As noted above, previous research has indicated that blacks tend to score more in the Type B direction than whites, which may have affected the present distribution. No reports in the literature could be found regarding Type A scores in unemployed or disabled populations. However, in the Framington Heart Study described earlier (Haynes et al., 1980), the two-fold CHD risk for Type A participants was found only in white-collar workers. No relationship was found in blue-collar subjects. It may be that unemployed people have lower Type A scores in general than employed people. Likewise, the presence of a disability may reduce Type A characteristics by limiting mobility and removing the individual from the challenges, deadlines, and competitive interactions typical of many work situations. Lastly, both the present results and those of Shekelle et al. (1975) indicate an inverse relationship between age and Type A scores. They reported that men in the 45 to 64 age range had significantly lower mean Type A scores than those in the 25 to 44 range. In the present sample, approximately 80% of the participants were age 45 or older, which may have further reduced overall Type A scores.

If Type A scores have been restricted in the present sample as the above discussion suggests, the obtained relationships between such scores and social support may be
an underestimate of those existing in the general population. Thus, it is felt that further research is needed to determine the prevalence and relative magnitude of such relationships in the non-coronary, employed population.

Finally, consideration should be given to the limitations of the present study. The design was correlational in nature, and thus, the findings reveal trends and directions in the associations between Type A behavior and social support rather than causal relationships. Therefore, caution should be taken in assuming on the basis of the above results that Type A behavior causes poor quality social support. As discussed earlier, further research utilizing factorial designs is warranted to explore the relationships found in this study. Secondly, the obtained correlations are relatively small, and are based solely on the responses of coronary patients. As argued above, the present relationships may resultantly not be of the same magnitude as those in the general, non-coronary population. Again, additional research is needed to clarify this issue. Lastly, the validity of the DSI and Subjective Importance of Social Support scale have not yet been established, although validity studies on the DSI are currently being conducted.

However, despite these limitations, it is felt that the present findings are valuable in that they establish a relationship between the Type A behavior pattern and social support.
In doing so, they serve to raise a number of questions concerning its nature, prevalence, and implications for future research to answer.
Appendix A

*Dawley Social Inventory

Name _____________________________ Date ____________

Sex (Circle One)
1 male 2 female

Date of Birth _______________ Education _______________
Highest grade
Completed

Part I

Directions: Please answer each of the following questions by either writing in the information requested or by circling one of the choices provided.

I live in a:
1. Rural country area
2. Small town under 5,000
3. Small city over 5000 but under 25,000
4. City over 25,000 but under 100,000
5. Large city of over 100,000

Current Health Status:
1. Good
2. Average
3. Poor

Do you have medical problems? ____________________________

If so, what? ___________________________________________

How many cigarettes do you smoke a day? _________________

How many of the following beverages do you drink in an average day?
1. Cans of beer __________
2. Glasses of wine __________
3. Ounces of whiskey __________
4. Cups of caffeinated coffee __________
5. Cups of caffeinated tea __________
6. 12 oz. cola beverages __________
7. Other ________________________
Appendix A—Continued

In terms of my life in general, I am:
1. Very dissatisfied 2. Slightly dissatisfied

Do you live alone?
1. Yes 2. No

If you do not live alone, how many people live with you? ___

What type of relationship do you have with your neighbors?
1. Never talk with them
2. Infrequently talk with them
3. Occasionally talk with them
4. Talk with them frequently

How many clubs and/or socio-fraternal organizations do you actively participate in? __________________

Are you a religious person?
1. No 2. Yes

Do you attend church on a regular basis?
1. Yes 2. No

Do you have a pet?
1. Yes 2. No

Do you like living in your neighborhood?
1. No 2. Yes

Your mother is:
1. Alive 2. Deceased

What type of relationship did/do you have with her?
1. Did not know my mother
2. Never got along
3. Sometimes got along
4. Got along well most of the time
5. Got along well all of the time

If your mother is deceased, how old were you when she died? ________

Your father is:
1. Alive 2. Deceased

What type of relationship did/do you have with him?
1. Did not know my father
2. Never got along
3. Sometimes got along
4. Got along well most of the time
5. Got along well all of the time
Appendix A--Continued

If your father is deceased, how old were you when he died? ________

Employed
1. No  2. Yes

Position ___________________________

For how long?
1. Less than 6 mos.
2. 1/2 to 3 yrs.
3. 3-5 yrs.
4. 5-10 yrs.
5. Over 10 yrs.

If not employed, please circle the appropriate category below.
1. Retired
2. Disabled
3. Unemployed

For how long have you been retired, disabled, or unemployed?
1. Less than 6 mos.
2. 1/2 to 3 yrs.
3. 3-5 yrs.
4. 5 to 10 yrs.
5. Over 10 yrs.

Former position ___________________________

Income Level:
1. Below $5000
2. $5001 to $10,000
3. $10,001 to $20,000
4. $20,001 to $25,000
5. $25,001 to $35,000
6. Over $35,000

Ethnic Group:
1. White
2. Black
3. Hispanic
4. Asian
5. Other

Marital Status:
1. Married
2. Divorced
3. Widowed
4. Separated
5. Never married
6. Unmarried--living together

For how long?
1. Less than 6 mos.
2. 1/2 to 3 yrs.
3. 3-5 yrs.
4. 5 to 10 yrs.
5. Over 10 yrs.
Please indicate the life events listed below that have happened to you during the last six months by circling each one that applies to you.

1. Death of spouse
2. Divorced
3. Marital separation
4. Death of close family member
5. Fired at work
6. Retirement
7. Change in health of family member
8. Death of close friend
9. Change in financial state
10. Change in different line of work
11. Change in responsibilities at work
12. Change in living conditions
13. Trouble with boss
14. Change in residence

How long have you lived at your present residence? ________

How many different jobs have you had in the last five years? ________

How many times have you moved in the last five years? _____
**PRACTICE A—Continued**

**PAGE 11**

**EHSIC/WQ: The Eysley Social Inventory looks at the people you know and how you feel about them. Listed below are a series of statements about people. For each person or group of individuals on the right, circle a number between one to four, indicating the degree to which each statement is true for you. Please answer all questions that pertain to you. KEY: if your mother is alive, please answer all 12 questions. Or, if your mother is deceased, leave all 12 questions blank.**

**Questions about people**

<table>
<thead>
<tr>
<th></th>
<th>Father</th>
<th>Father</th>
<th>Spouse</th>
<th>Other</th>
<th>Other</th>
<th>Best</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A person (or people) who I get along with.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
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<tr>
<td>2. A person (or people) who likes me.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
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<td>3. A person (or people) I enjoy being with.</td>
<td>1 2 3 4</td>
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<tr>
<td>4. A person (or people) with whom I can express my true feelings.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
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<tr>
<td>5. A person (or people) I can count on.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
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<tr>
<td>6. A person (or people) who I trust.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
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<td>1 2 3 4</td>
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<tr>
<td>7. A person (or people) I can turn to for help.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
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<tr>
<td>8. A person (or people) with whom I spend a lot of time.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
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<tr>
<td>9. A person (or people) with whom I talk daily.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
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<tr>
<td>10. A person (or people) who makes me mad.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
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<tr>
<td>11. A person (or people) who makes me nervous.</td>
<td>1 2 3 4</td>
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<td>1 2 3 4</td>
<td>1 2 3 4</td>
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<tr>
<td>12. A person (or people) who treats me badly.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
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</tbody>
</table>

Please indicate the number of people you stay in touch with in each of these following categories by writing down the number that you talk with on a regular basis.

KEY: 1. Not at all
2. Somewhat So (A little)
3. Moderately So (Much of the Time)
4. Very Much So (All or Most of the Time)

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**Appendix B**

**SISS**

**Instructions:** Listed below are some statements concerning how people feel about their relationships with others. For each item, please rate how characteristic it is of the way you feel by circling a number between one and four. The ratings mean the following:

1 = Not at all characteristic of me.
2 = Somewhat characteristic of me.
3 = Fairly characteristic of me.
4 = Very characteristic of me.

<p>| | | | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>I don't think a person has to have close friends to be happy in life.</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>I try to make myself available to my friends and family when they need me</td>
<td>1 2 3 4</td>
<td></td>
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<tr>
<td>3.</td>
<td>I prefer to spend my free-time alone rather than with friends</td>
<td>1 2 3 4</td>
<td></td>
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<tr>
<td>4.</td>
<td>Most of the time, I enjoy the company of others</td>
<td>1 2 3 4</td>
<td></td>
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<tr>
<td>5.</td>
<td>I feel that a person's family and friends are his/her greatest asset</td>
<td>1 2 3 4</td>
<td></td>
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<tr>
<td>6.</td>
<td>It is important to me that I have someone I feel I can discuss my personal problems with</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
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<tr>
<td>7.</td>
<td>I feel that friends are more of a luxury than a necessity in life</td>
<td>1 2 3 4</td>
<td></td>
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<tr>
<td>8.</td>
<td>I prefer to work out the personal problems I have without the help of others</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
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<tr>
<td>9.</td>
<td>I feel I avoid close personal relationships as they demand too much of me</td>
<td>1 2 3 4</td>
<td></td>
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<tr>
<td>10.</td>
<td>I feel it's important to put family and friends before business affairs</td>
<td>1 2 3 4</td>
<td></td>
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</table>
Appendix C

Informed Consent Agreement

I have been asked to participate in a study on the relationship of "Social Support to Physical Illness".

I understand that this involves my completing questionnaires concerning my background, family and friends, and personal feelings toward others. I further understand that my participation is completely voluntary, and I may withdraw my consent to participate at any time. I understand that if I have any questions regarding this study or this form, they will be answered so that I satisfactorily and completely understand.

In case of any adverse effect or physical injury resulting from this study, eligible veterans are entitled to medical care and treatment. Compensation may be payable under 38 USC351 or in some circumstances under Federal Tort Claims Act. Non-eligible veterans or non-veterans are entitled only to medical emergency care and treatment on a humanitarian basis. Compensation would be limited to situations involving negligence and would be controlled by the provisions of the Federal Tort Claims Act.

I have read and understand the information above and I sign this consent form willingly.

Signature ______________________________________ Date __________________

Witnessed by __________________________________ Date __________________

I am unable to read but this consent form has been read and explained to me by _____________________. I understand the information stated above and I willingly sign this consent form.

Signature ______________________________________ Date __________________

Witnessed by __________________________________ Date __________________
References


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