12-1983

# An Exploratory Study of Adolescents' Communicative A ttitudes, Perceptions of Behavior, and Life Change Events as Potential Factors in Development of Essential Hypertension

Susan Heath Falvo
*University of Nebraska at Omaha*

# An Exploratory Study of Adolescents' Communicative Attitudes, Perceptions of Behavior, and Life Change Events as Potential Factors in Development of Essential Hypertension

A Thesis

Presented to the

Department of Communication

and the

Faculty of the Graduate College

University of Nebraska

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

University of Nebraska at Omaha

by

Susan Heath Falvo

December 1983





ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

Table of Contents

Table of Contents (Continued)

List of Tables

## Acknowledgment

In memory of my parents, Neila and Ken Heath.

1981

# Chapter I

## Introduction to the Study

### Introduction

In the past 50 years, social scientists and medical researchers have explored many aspects of human behavior and the psyche which appeared related to various physical disorders. This endeavor evolved into a discipline known as "psychosomatic medicine." Methodologies and perspectives within this discipline have varied widely over the years and many studies have yielded inconclusive findings (Lipowski, 1977; Lazarus, 1980). However, a review of the psychosomatic literature reveals at least one common dimension: the nature of one's face-to-face transactions is vitally linked to one's physical well-being.

One medical researcher who described the relationship between human interaction and physiological processes was Hans Selye. Noted for articulating the concept of stress as a "nonspecific result of any demand upon the body" (1980, p. vii), Selye observed that it is the stress of interpersonal relations that represents one of the greatest sources of distress for the individual (1974, p. 67). Stress becomes distress when a demand taxes or exceeds the body's adaptive capabilities. Selye's observation suggests that certain patterns in interpersonal behavior may pose a threat to one's health.

H. G. Wolff also suggests a link between interaction and physical well-being. From Wolff's perspective, stress is an ongoing process of adapting to everyday demands which "result mainly from the interaction of men with one another, both singly and in groups..." (1968, p. 5). A recent discussion by psychologist R. S. Lazarus and his

colleagues reinforced Wolff's earlier observation:

> We believe that most of the important sources of stress in human life arise from the social context of living, from social arrangements based on shared meaning; in effect, they involve troubled interpersonal relationships (1980, p. 107).

Related to the adaptational demands that are experienced within interaction, are one's attitudes and perceptions. Selye (1974) addressed the vital role of one's attitudes in relation to stress and interaction:

> We must fully understand that...positive, negative, and indifferent attitudes are built into the very substance of living matter. They regulate homeostatic adaptation on all levels of interaction...If we truly understand and fully accept this, we will be better prepared to direct that part of our behavior that is, or can be brought under voluntary control...(p. 76).

As described by Selye, attitudes regulate many different aspects of human functioning--including one's interaction with others.

Many attitudes are formed early in a person's life. Typically children's attitudes reflect those of their parents. However, during adolescence, individuals are confronted with the development task of establishing their own identity (McKinney, Fitzgerald, & Strommen, 1982). Related to this maturation process are the adolescents' attitudes and perceptions which reflect their emerging identity.

Adolescence is a transitional period characterized by many adaptational demands. As adolescents acquire new skills and roles, they need to adapt to a variety of changes within their personal, family, and social lives. Any of these changes are potential stressors. The adolescent's adjustment depends not only upon the nature of the demand but also in the individual's attitudes and perceptions within the context of change.

When a number of significant adjustments are required of the individual, the demand may exceed the adolescent's adaptive resources. An individual's inability

to adapt to stress may be signalled by a variety of different responses. For some adolescents the outcome of distress may be a psychosomatic illness.

While stress is believed to be related to psychosomatic illnesses, there is much regarding the relationship that is not known. People experiencing similar stress may develop different psychosomatic illnesses or they may show no physiological manifestations of distress. One's attitudes and perceptions are likely related to how well the individual adapts to stress. By studying the relationship between attitudes/perceptions and stress in adolescents, maladaptive patterns may be identified and modified before such patterns have a detrimental impact on the individual's health.

## Literature Review

Throughout medical history, observations by practitioners and researchers alike have consistently supported the notion that a relationship exists between interpersonal interaction and physical health. However, it was not until recently that researchers began to empirically link physiological functioning with human interaction.

Oral communication and elevated blood pressure. A series of studies involving clinical interviews by Wolff et al. (1955) provided some of the first tangible evidence of a relationship between oral communication and cardiovascular responses. Other studies have shown that when an individual speaks in the presence of another person in an interview setting, arterial blood pressure (BP) readings rise significantly (Weiner, Singer, & Reiser, 1969; Sapira, Scheib, Moriarty, & Shapiro, 1971; Williams, Kimball, & Williard, 1972; Dembroski, MacDougall, & Lushene, 1979).

For a number of years, then, empirical evidence has supported the observation that face-to-face interaction is associated with transient elevations in BP. However, interpretation of fluctuations in BP readings was questionable because of measurement

constraints associated with the conventional stethoscope and sphygmomanometer. Recently this limitation has been minimized with the advent of noninvasive automated BP measurement devices. Readings may now be taken while the subject is talking with others. Since this technological development, studies have confirmed a link between oral communication and BP changes (Lynch, Thomas, Long, Malinow, Chicadonz, & Katcher, 1980; 1981).

Lynch and associates found that during talking, BP increases were significant for both normotensive and hypertensive subjects. Furthermore, those individuals with higher resting baseline measurements tended to show greater BP increases during a speaking episode. Even with these recent technological advancements in BP assessment, the mechanism by which transient BP elevations become sustained BP elevations is not known.

Essential hypertension. When arterial BP remains chronically elevated for no known etiological reason, the clinical syndrome is labeled "essential hypertension" (Alexander, 1950). Categorized as a stress disease, essential hypertension (EHT) is prevalent throughout Western society. Reported estimates of its incidence range from 10 to 30 percent of the adult population (Stamler, Stamler, Riedlinger, Algera, & Roberts, 1976).

A number of factors such as age, body weight, sodium intake, smoking, cholesterol levels, etc., are typically associated with EHT. However, extensive research findings revealed that only 20 to 25 percent of the intraindividual variability were explained by these physical factors (Stamler et al., 1976). The remaining unexplained variance warrants an exploration of other types of factors including processes and patterns of oral communication which may predispose a person to EHT.

Various studies have considered the etiological role of psychological and interpersonal factors in the manifestation of EHT. Research which focused on single variables as potential causative agents of EHT resulted in limited conclusions (Torgersen & Kringlen, 1971; Pilowsky, Spalding, Shaw, & Korner, 1973; Handkins & Munz, 1978). However, hypertensive studies which have departed from a simplified model of human functioning by recognizing the multivariate interaction of psychological, behavioral, and situational factors have obtained more tangible outcomes (Shapiro, 1978; Lynch et al., 1980, 1981; Linden & Feuerstein, 1981; Myers & Miles, 1981).

Essential hypertension, communicative attitudes, and perceptions of behavior. One such study by Carlson and Brilhart (1980) explored the relationship of communicative attitudes/behavior with essential hypertension. After initial data analysis from a pilot study, Carlson and Brilhart hypothesized that when a person's communicative attitudes are incongruent with self-perceptions of communicative behavior, internal tension is created which may be manifested by elevated blood pressure. The theoretical underpinnings of the 1980 study by Carlson and Brilhart are found in the literature describing the attitudinal construct "rhetorical sensitivity" (Hart & Burks, 1972; Darnell & Brockriede, 1976; Carlson, 1978) and a pilot assertiveness training study conducted by Brilhart (reported in Carlson & Brilhart, 1980).

Rhetorical sensitivity is described in the literature as a construct which characterizes an "ideal" attitudinal set toward encoding spoken messages--what and how ideas should be expressed in a given situation. Carlson (1978) developed and refined the RHETSEN scale which measures components of encoding attitudes by differentiating between three distinct attitudinal predispositions: Rhetorical

Sensitivity (RS), Noble Self (NS), and Rhetorical Reflector (RR). Together, a person's scores on the RS, NS, and RR scales provide a profile of one's encoding attitude set (Carlson, 1978; Hart, Eadie, & Carlson, 1980).

An individual whose scores suggest the RS predisposition may be characterized as one who balances concern for others and self by seeking ways to express ideas adapted to both the context of the situation and the audience without sacrificing personal integrity. The RS person is not only cognizant of the complexity of the communicative process but is also attuned to the ever-changing nature of human interaction (Hart & Burks, 1972; Darnell & Brockriede, 1976; Carlson, 1978; and Hart et al., 1980). On an attitudinal continuum, RS would be midway between the two opposite prototypes: NS and RR (Darnell & Brockriede, 1976).

In contrast to RS, the NS is primarily focused on self while minimizing the communicative import of the audience or the situation. The contemporary expressions "telling it like it is" and "looking out for number one" epitomize the NS orientation (Carlson & Brilhart, 1980). Therefore, on the RHETSEN, a person's NS score indicates her/his overriding concern for self when encoding spoken messages.

In contrast to the NS scale, the RR scale measures the opposite attitudinal predispositions toward oral communication. Described as lacking a sense of self when communicating, the primary concern of the RR is pleasing others (Hart et al., 1980). Therefore, in order to satisfy others' expectations, the RR is willing to modify messages at virtually any personal cost.

Brilhart (Carlson & Brilhart, 1980, p. 8; Currey, 1979) conducted a pilot study to determine the effectiveness of assertiveness training as a means of lowering arterial BP. In the literature, assertiveness is defined as the ability to express one's personal

rights without diminishing the status of others (Boland, 1974).

Brilhart screened 129 subjects for elevated BP. These subjects were also administered several paper-and-pencil questionnaires which included two self-report instruments: The Wolpe-Lazarus Assertiveness Questionnaire (AQ) and the RHETSEN. From the initial screening sample, eight of the subjects classified with elevated BP participated in the six two-hour assertiveness training sessions modeled after that of Boland (1974). Training consisted of a variety of activities including group discussions, role-playing, and progressive relaxation techniques. Post-training evaluation of one week and three months revealed a small but significant reduction in systolic and diastolic BP for the subjects as a group. Furthermore, an analysis of the eight subjects' responses on the AQ and RHETSEN revealed an unexpected relationship between rhetorical predisposition and assertiveness: five of the six low assertive subjects scored high on the NS scale.

From a theoretical perspective, one would expect communicative attitudes to be compatible (congruent) with self-perceptions of communicative behavior. Thus, NS attitudes are congruent with high assertive communicative behavior and RR attitudes are in accord with low assertive behavior. Therefore, the incongruent AQ/RHETSEN pattern discovered in five of the subjects with elevated BP in the pilot study appeared noteworthy (Carlson & Brilhart, 1980).

Based upon this apparent pattern and empirical evidence derived from correlations between subscales on the RHETSEN and the AQ, Carlson and Brilhart (1980) postulated four incongruent patterns between rhetorical predisposition and assertiveness. The first two incongruent patterns described by Carlson and Brilhart (1980) are high NS - low assertive and high RR - high assertive.

The third incongruent pattern is related to another communicative attitudinal type first described by Hart, Carlson, and Eadie (1980) as the "rhetorically ambivalent" which represents a simultaneous adherence to the two opposite rhetorical types--RR and NS. Carlson and Brilhart (1980) postulate that internal tension or incongruency is created when the rhetorically ambivalent individual perceives self as low assertive.

The definition of the fourth incongruent type is based on the characteristics of rhetorical sensitivity. On the forced choice AQ, one would expect the RS individual to chose equally between assertive and non-assertive responses (Carlson & Brilhart, 1980). Therefore, a RS person would typically be neither high or low assertive. However, when RS attitudes are coupled with self-perceptions of non-assertive communicative behavior, Carlson and Brilhart (1980) hypothesized an incongruency.

The rationale for the prediction of an incongruency associated with low assertiveness and high rhetorical sensitivity or ambivalence was that communicating assertively provides an effective release mechanism for the RS and rhetorically ambivalent types. When assertive behaviors are insufficient, unreleased communicative tension within the individual may eventually be manifested by elevated BP.

Given the theoretical predictions and the findings from the pilot study, Carlson and Brilhart (1980) conducted an exploratory study to determine if there was a relationship between essential hypertension and an incongruence between one's communicative attitudes and perceptions of self-communicative behavior. The survey included BP screenings and the administration of the AQ and RHETSEN for day and evening college students in a basic speech communication course (N=646). Data analysis

revealed that 60 percent of the male subjects and 40 percent of the female subjects with repeated elevated BP had an incongruence between rhetorical predisposition and assertiveness level. Given these findings, Carlson and Brilhart (1980) concluded that an incongruent relationship between communicative attitudes and perceptions of self-communicative behavior may be a contributor in the etiology of essential hypertension.

Adolescence and stress/essential hypertension. In the past, hypertension was depicted as an adult disease which emerged in midlife and was typically associated with a stressful lifestyle. Although morbidity studies usually focus on adult populations, recent medical findings suggest that EHT has its etiological roots in childhood and/or adolescence (Loggie, 1971; Londe, Bourgoignie, Robson, & Golding, 1971; Kilcoyne, Richter, & Alsup, 1974; and Golding, Hernandez, Choi, Lee, Londe Lindgren, & Burton, 1979).

Adolescence is a period of transition between childhood and adulthood that is potentially stressful because of the numerous adaptational demands encountered by the young person (McKinney et al., 1982). During this period, changes within the adolescent's physical, mental, emotional, and social spheres occur at a phenomenal rate. How well the individual accommodates the interaction of these physical and psychosocial forces depends not only on the adolescent's intrapersonal and interpersonal transactions but also on the nature of the change itself.

Often the advent of personal and social change is signalled by situational events such as moving, starting a new job, changing schools, etc. During the past 15 years, an extensive body of research has explored the relationship of adult life events to stress and disease. Such events are considered stressful when a significant

change is required in the individual's ongoing life pattern (Holmes & Rahe, 1967). A quantitative measurement of the magnitude of stressful change events for adults was introduced by Holmes and Rahe (1967) as the Social Readjustment Rating Scale. Researchers postulated a temporal relationship between life stress events and disease onset which is additive in nature: the more stressful events experienced, the greater the adverse effect on the person's health (Rabkin & Struenig, 1976).

Since the introduction of the Holmes and Rahe scale, similar life change instruments have been designed for different age groups. Coddington (1972) modified the Holmes and Rahe scale to reflect the experiences of children and adolescents by constructing separate scales consisting of change events applicable to different age groups--preschool through high school. Weightings for each event on the scales were determined by adults such as teachers, pediatricians, and parents.

Recently, Yeaworth and York developed a questionnaire listing personal, family, and social events specifically related to adolescents' experiences (reported in Yeaworth, York, Hussey, Ingle, & Goodwin, 1980). On the Adolescent Life Change Event Questionnaire (ALCEQ), subjects indicate whether or not they have experienced a given event in the past year. Unlike the Coddington scale, the weightings for each item on the Adolescent Life Change Event Scale (ALCES) were established from normative ratings by adolescents.

No studies have explored the relationship between life change events and EHT in an adolescent population. However, in a recent pilot study of hypertension in black adults (N=76), the multivariate analysis by Myers and Miles (1981) indicated that the proportion of negative to total life change events was one of the major discriminators between two groups of adults--one with no elevated BP readings and the

other with significantly elevated BP readings.

Purpose of the Study

To date, RHETSEN studies have focused on college-age or older samples; the communicative patterns of a younger population are yet unknown. Therefore, a comparison of adolescent rhetorical types and self-perceptions of communicative behavior with an adult population may provide clues as to when certain communicative patterns emerge.

Currently, no studies have explored the relationship between communicative attitudes/perceptions of behavior and life change experiences. A study of communicative variables within the context of adolescent change events may suggest how communicative patterns are related to one's adaptations. If significant life changes and/or incongruent communicative patterns are discovered in adolescents, it would seem plausible, given past research findings, that such factors may be signalled by elevated BP.

Many current studies conceptualize the relationship between EHT and stress as a complex interaction of multiple factors. Communicative attitudes, perceptions, and change events may be included among the potential factors contributing to EHT in adults. Since the relationship of these factors with EHT in adolescents has not yet been studied, the purpose of this study is twofold:

- to explore normative and individual patterns in adolescents' communicative attitudes, self-perceptions of communicative behavior, and life change events, and
- to determine if these factors appear related to elevated BP in adolescents.

## Research Questions

Based on adolescent responses on the AQ, RHETSEN, and ALCEQ, specific research questions are addressed as follows:

1. How do adolescents' normative responses on the AQ, RHETSEN, and ALCEQ compare with previously established normative values on the three instruments?
2. On the RHETSEN, how do correlations on the RS, NS, and RR subscales obtained from adolescent data compare with correlations obtained from the national RHETSEN survey of adults?
3. In the adolescent sample, how do the normative responses on the AQ, RHETSEN, and the ALCEQ of adolescents with elevated blood pressure compare with the responses of adolescents with normal blood pressure?
4. After categorizing individual subject scores on the three instruments, how do individual patterns in rhetorical predisposition, assertiveness level, and experienced life change compare between the two BP groups?
5. What incongruent patterns are suggested by AQ and RHETSEN scores?
6. How do the life change events of the two BP adolescent groups compare?

# Chapter II

## Research Design and Procedures

### Subjects and Setting

The sample of subjects consisted of 52 students drawn from a larger sample of high school seniors who had participated in a longitudinal hypertensive study in the Omaha public school system. The original sample was determined in 1978 when a city-wide BP screening was conducted involving all consenting ninth grade students.

The purpose of the initial BP screening was to select a sample for a longitudinal study of adolescent hypertension. Any student with a systolic BP reading greater than 130 and/or a diastolic BP reading greater than 85 was designated as a member of the "hypertensive group." Every fifteenth student screened with BP readings below 130/85 comprised the "normotensive group" for the longitudinal study. The total sample consisted of 83 subjects in the hypertensive group and 83 subjects in the normotensive group. In the proceeding three years of the study, data collection was conducted annually at the eight public high schools.

Because of scheduling conflicts for both the researcher and the subjects who were graduating seniors, the student sample for the present study was limited to three of the eight Omaha high schools. The final sample consisted of 52 students with a mean average of 17.8 years. Of the total group, 30 were female and 22 were male. Forty-four students indicated their ethnic background as White, seven as Black, and one as Hispanic.

The original BP group assignments from the longitudinal study were not used in the present study. The 52 students in the sample were reassigned to one of the two

BP groups which for the purposes of this study were designated as the normotensive and hypertensive groups. Assignment to the appropriate BP group was determined by six BP readings: the 1978 reading taken during initial screening procedures and five 1982 readings taken during the final data collection session. Students with at least four elevated BP readings (systolic greater than 130 and/or diastolic greater than 85) were assigned to Group 1 which in this study is designated as the "hypertensive" group. The remaining 38 students were assigned to Group 2 which this study identified as the "normotensive" group.

## Instruments

Pentax BP Recorder. Indirect arterial BP measurements were obtained with the Pentax automatic sphygmomanometer. Each BP recorder used in the study was calibrated prior to beginning the data collection session (see Appendix A for BP protocol).

The self-report questionnaire consisted of three parts (see Appendix B):

Assertiveness Questionnaire (AQ). The first part of the questionnaire consisted of the Wolpe-Lazarus Scale. Although validity and reliability levels have not been sufficiently consistent, this instrument is the most frequently used scale for measurement of one's perception of self-assertiveness (Currey, 1979). Unlike other assertiveness questionnaires, items on the Wolpe-Lazarus Scale predominantly reflect verbal expressions of negative affect. Assertive responses are scored as either "yes" or "no" on the AQ. The lower a person's tabulated score on the AQ the higher the assertiveness measurement.

RHETSEN. Part two of the student questionnaire consisted of the RHETSEN scale which is a valid and reliable instrument for measuring attitudes toward encoding spoken messages (Carlson, 1978; Hart et al., 1980). Responses to the 40-item RHETSEN

are presented in a Likert-type format; items are scored differentially for the RS, NS, and RR subscales. A subject's scores on the three subscales establishes a profile of the person's attitudinal predisposition toward encoding spoken messages.

Adolescent Life Change Event Questionnaire (ALCEQ). The third and final part of the questionnaire is the ALCEQ which consists of 38 items describing personal, social, and family events relevant to adolescent experiences. On the ALCEQ, subjects indicate whether or not they have experienced a given event during the past year. The quantitative weightings of stressfulness are determined from subject responses on the Adolescent Life Change Event Scale (ALCES). Consistent ratings on the ALCES from previous studies have supported both the reliability and validity of this instrument (Mendez, Yeaworth, York, & Goodwin, 1980). Therefore, the Life Change Unit (LCU) values established in an earlier study (Mendez et al., 1980) were used as the ALCEQ weightings in this study.

## Procedure

Data gathering occurred in two phases. The first consisted of the data base collection sessions and the second phase involved administering the three-part questionnaire.

Phase one. During the fourth and final year of the adolescent hypertension study, the researcher assisted the university nursing faculty and graduate students with subject interviews and measurements at the eight public high schools. A data base was completed for each student which consisted of demographic information; measurements of skinfold thickness, height, and weight; personal and family history; medication record; twenty-four hour dietary recall; physical activity recall; and six arterial BP readings recorded with a Pentax automatic sphygmomanometer (see Appendix C).

After subject interviews and BP measurements were completed during the final data collection sessions, students from the three selected schools were individually asked by the researcher if they would complete a questionnaire at a later date. It was explained to the students that the questionnaire concerned their communication behavior and recent experiences. All students who were asked indicated that they would participate in the study.

Phase two. Prior approval by school authorities for the longitudinal study was extended to include the student survey (see Appendix D). Arrangements for administering the three-part questionnaire were made through the high schools' counseling offices. Each school counselor provided an unoccupied classroom in which subjects completed the questionnaire in groups of five to ten students. Written instructions were presented on the cover sheet of the questionnaire (see Appendix E). The researcher was present while the students completed their written responses.

# Chapter III

## Results and Discussion

The first step in this exploratory study is to determine the normative patterns in the communicative attitudes, perceptions of self-communicative behavior, and life change experiences of a sample of high school senior students. It is noted that previously established normative data on the ALCEQ, RHETSEN, and AQ reported by Mendez et al. (1980), Carlson and Brilhart (1980), and Hart et al. (1980) reflected the responses of subjects who as a group were either younger or older than the present sample's mean age of 17.8 years. The ALCEQ values reported in the Mendez et al. (1980) study consisted of a sample of adolescents (N=182) with a mean age of 14.9 years; the RHETSEN and AQ normative values reported by Carlson and Brilhart (1980) and Hart et al. (1980) represented the responses of college-age or older subjects. Because of the age differences between samples, the high school seniors' mean scores on the ALCEQ, RHETSEN, and AQ are reported with the corresponding normative data from the earlier studies cited above.

### Normative Comparisons

Results. In Table 1, for the total group (N=52), the hypertensive group (N=14), and the normotensive group (N=38) are presented with group mean scores cited in earlier studies (Mendez et al., 1980; Carlson & Brilhart, 1980; Hart et al., 1980).

Discussion. Given the disparity between the sizes of the various studies' samples, statistical comparisons were not made between the present study and earlier findings. Therefore, any noted differences and/or similarities between the high school sample and previous normative findings on the ALCEQ, RHETSEN, and AQ

Table 1

Comparison of AQ, RHETSEN, and ALCEQ
Mean Scores with Past Studies

| Present Study | | Past Studies | |
|---|---|---|---|
| Gp 1 (hypertensive)= 14<br>Gp 2 (normotensive)=38 | | | |
| Wolpe-Lazarus Questionnaire (AQ) | mean score | Carlson & Brilhart (1980) (N=646)<br>mean score | Hart, Carlson, & Eadie (1980) (N=2023)<br>mean score |
| Gp 1 | 13.8 | | |
| Gp 2 | 12.4 | | |
| Total Gp | 12.8 | 13.6 | |
| RHETSEN | | | |
| RS scale | | | |
| Gp 1 | 33.2 | | |
| Gp 2 | 31.9 | | |
| Total Gp | 32.2 | 31.2 | 31.8 |
| NS scale | | | |
| Gp 1 | 14.0 | | |
| Gp 2 | 14.7 | | |
| Total Gp | 14.5 | 15.5 | 15.1 |
| RR scale | | | |
| Gp 1 | 4.7 | | |
| Gp 2 | 5.8 | | |
| Total Gp | 5.5 | 6.3 | 7.0 |
| ALCEQ | | Mendez, Yeaworth, York, & Goodwin (1980) (N=182) | |
| | mean score | mean score | |
| Gp 1 | 523.0 | | |
| Gp 2 | 573.0 | | |
| Total Gp | 559.0 | 497.5 | |

does not imply statistical significance.

The general similarity between the ALCEQ, RHETSEN, and AQ mean scores from the present sample and the mean scores determined in the previous studies suggest that, as a group, high school seniors' communicative attitudes/behavior and change experiences conform to normative patterns revealed in earlier studies. Although the ALCEQ mean scores from the present sample appear higher than the mean score reported in the Mendez et al. study, this finding is consistent with the observation by Mendez et al. (1980) that ALCEQ scores generally increase with the age of the adolescent subject. Another apparent disparity between the mean scores of the present sample and previous studies is suggested by the RR mean scores on the RHETSEN scale. This potential difference between the various samples' RR attitudinal tendencies will be discussed on page 21.

Normative similarities in RHETSEN and AQ scores between the adolescent group and the older age samples were anticipated by the researcher since it was assumed that high school seniors and college-age students would likely share a variety of similar communicative attitudes, perceptions, and experiences. However, if samples were drawn from distinctively different age populations, characteristic age differences in communicative attitudes/behavior may become apparent. Further study may discern patterns in encoding attitudes and perceptions of self-assertive behavior that are not only characteristic of specific age groups but also may correspond to different life stages. In addition to a cross-sectional comparison, a longitudinal study spanning adolescence and early adulthood may also reveal changing developmental patterns in communicative attitudes/behavior as the individual matures. If a longitudinal study were undertaken with a sample of adolescents younger than the present study, the

items on the AQ and RHETSEN would likely require modification to reflect the experiences of the younger adolescent.

RHETSEN Scale Correlations

Results. After describing mean scores on the ALCEQ, RHETSEN, and AQ in relation to earlier studies, interscale correlations on the RHETSEN from the present study are presented in Table 2 with coefficient values reported in the Hart et al. (1980) study.

Table 2

RHETSEN Scale Correlations

| Present Study | Scales | RS | NS |
|---|---|---|---|
| Total Gp | RS | | |
| N=52 | NS | **-.91 | |
| | RR | -.20 | -.16 |
| Gp 1 | RS | | |
| N=14 | NS | **-.75 | |
| | RR | -.14 | -.17 |
| Gp 2 | RS | | |
| N=38 | NS | **-.91 | |
| | RR | -.18 | -.17 |
| National Survey | RS | | |
| Hart, Carlson, & Eadie (1980) N=3023 | NS | *-.81 | |
| | RR | *-.48 | *-.09 |

*p < .01

**p < .001

Discussion. Previous research found a definite inverse relationship between the RS and RR scales ($r=-.48$, $p<.01$) and an even greater negative correlation between the RS and NS scales ($r=-.81$, $p<.01$). In the present study, the negative interscale correlation between the RS and NS scales for the total group appears to be not only similar to the findings from the RHETSEN national survey but also of greater magnitude ($r=-.91$, $p<.001$). Remaining total group correlations between the RS, NS, and RR scales are not statistically significant.

The magnitude and strength of the negative correlation between the NS and RS scales in the present study appears to support the observation that adolescents' scores tended to be high on either the RS or NS scales. It is also noted that only two subjects scored high (>1 s.d. above the mean) on the RR scale. This finding appears consistent with the Hart et al. (1980) observation that dominant RR attitudes were more characteristic of the older subjects in the national RHETSEN survey. The paucity of strong RR tendencies in the present study may also explain the lack of a significant correlation associated with the RR scale. Another factor that may have contributed to the strength of the RS - NS correlation is that, in contrast to past RHETSEN studies, none of the adolescents' scores revealed the rhetorically ambivalent orientation. Given these findings, it may be that "pure" NS and RS communicative studies are more dominant during late adolescence than the period of adulthood represented by the national RHETSEN survey.

Normotensive/Hypertensive Comparisons on the Three Instruments

Results. To determine if the hypertensive group of adolescents differ from the normotensive group in communicative attitudes, self-perception of assertive behavior, and experienced life changes, two-tailed t-tests for independent groups were performed

between mean scores on the three instruments. T-tests indicate no significant differences between the normotensive and hypertensive group mean scores on the AQ, the RHETSEN scales, and the ALCEQ.

Although mean scores on the three instruments do not reveal significant differences between the two BP groups, a correlational analysis of ALCEQ, RHETSEN, and AQ scores does suggest different variable relationships in the normotensive and hypertensive groups. Significant correlational coefficients between the ALCEQ, RHETSEN, and AQ scores for the total group and both BP groups are presented in Table 3.

Table 3

Correlations of RHETSEN, AQ, and ALCEQ Scores by BP Group

| | Total Gp N=52 | | Gp 1 N=14 | | Gp 2 N=38 | |
|---|---|---|---|---|---|---|
| | AQ | ALCEQ | AQ | ALCEQ | AQ | ALCEQ |
| RS | *.23 | | | | *.31 | |
| NS | **-.33 | *.25 | | | **-.38 | *.30 |
| RR | *.23 | | *.46 | *.54 | .21 | |
| AQ | | | | *-.46 | | |

*p < .05
**p < .01

Discussion. Pearson correlation coefficients for the RHETSEN/AQ/ALCEQ scores are similar between the total group and the normotensive subgroup. It is also noted that the total group correlations between the NS - AQ scores ($r=-.33$, $p < .01$) and the RR - AQ scores ($r=.23$, $p < .05$) are consistent with the direction and

magnitude of the correlation values reported in 1980 by Carlson and Brilhart (NS - AQ scores: $r=-.28$, $p<.0001$; RR - AQ scores: $r=.27$, $p<.001$). The present study's correlations appear supportive of the theoretical prediction that NS tendencies are positively related to perceptions of self-assertiveness while RR attitudes are negatively associated with perceptions of assertiveness.

In contrast to the correlation values for the normotensive group, Spearman correlation coefficients for the hypertensive group reveal a significant positive relationship between the RR - ALCEQ scores ($r_s=.54$, $p<.05$). It is noted that communicative attitudes are positively correlated with life change experiences for both the hypertensive and normotensive groups. However, it is the RR attitudes rather than the NS attitudes that are directly related to life changes in the hypertensive group. Another distinction between the two BP groups is that correlation values in the hypertensive group reveal a positive relationship between RR - AQ scores ($r_s=.46$, $p<.05$) and a negative correlation between ALCEQ-AQ scores ($r_s=-.46$, $p<.05$). With high assertiveness equated with low AQ scores, these Spearman coefficients for the hypertensive group suggest that as perceptions of self-assertiveness increase with life change experiences, this increase may also be accompanied by increasing RR tendencies. If LCU's increase with age (Mendez et al., 1980), the above correlation coefficients in the hypertensive group may be indicative of a potential high assertiveness - high RR incongruent pattern developing as the hypertensive adolescent matures.

## Categorizing Individual Subjects

Results. After completing normative comparisons between the hypertensive and normotensive groups' responses, adolescents' scores were individually categorized according to total group means on the three instruments. The criteria for assignment

into the appropriate cell for each instrument are presented in Table 4.

Table 4

Criteria for Categorizing AQ, RHETSEN, and ALCEQ Scores

Wolpe-Lazarus Assertiveness Questionnaire (AQ)

High Assertive = Subject Score < Total Group Mean of 12.8

Low Assertive = Subject Score ≥ Total Group Mean of 12.8

RHETSEN

Suggested score cut-offs and relative frequencies from Hart, Carlson, and Eadie (1980)

| | RS | NS | RR |
|---|---|---|---|
| Classic RS (26.9%) | ≥ 32 | < 15 | < 7 |
| Classic NS (14.5%) | < 32 | ≥ 15 | < 7 |
| Classic RR ( 6.7%) | < 32 | < 15 | ≥ 7 |

Adolescent Life Change Event Questionnaire (ALCEQ)

High Life Change = Subject Score < Total Group Mean of 559

Low Life Change = Subject Score ≥ Total Group Mean of 559

Mean values on the AQ and ALCEQ were arbitrarily selected as the reference score for determining assignment into the "Hi" and "Lo" categories for assertiveness and experienced life change levels. The frequency counts for grouping student scores according to the above criteria are presented in Table 5. Since the two BP groups are of unequal cell size, relative frequencies are also indicated in Table 5. All scores on the AQ and ALCEQ are included in either the "Hi" or "Lo" category since scores are judged as either < or ≥ to the total group mean.

Table 5

Frequency Distribution of Scores on AQ, RHETSEN, and ALCEQ

| | Total Gp (N=52) | | Gp 1 (N=14) | | GP 2 (N=38) | |
|---|---|---|---|---|---|---|
| AQ | freq | rel freq | freq | rel freq | freq | rel freq |
| Hi Assert | 23 | .44 | 5 | .35 | 18 | .48 |
| Lo Assert | 29 | .56 | 9 | .65 | 20 | .52 |
| RHETSEN | | | | | | |
| Classic RS | 11 | .21 | 5 | .36 | 6 | .16 |
| Classic NS | 15 | .29 | 5 | .36 | 10 | .26 |
| Classic RR | 2 | .04 | 0 | .00 | 2 | .05 |
| ALCEQ | | | | | | |
| Hi Change | 23 | .44 | 5 | .35 | 18 | .48 |
| Lo Change | 29 | .56 | 9 | .65 | 20 | .52 |

In contrast to the bipolar categories for the AQ and ALCEQ scores, the NS, RS, and RR scores must satisfy a number of conditions before a subject may be classified as one of the "pure" rhetorical types. Suggested score cut-offs for the classic NS, RS, and RR types are from Hart et al. (1980) and are presented in Table 4. As with the adult sample from the national RHETSEN survey, approximately 50 percent of the high school sample are classified as one of the pure rhetorical types. The number and relative frequencies of the NS, RS, and RR adolescents from the present study are found in Table 5. The relative frequencies for the RS and RR types in the total high school sample are slightly less than the percentages presented in the Hart et al. (1980) study. However, the frequency pattern of the RS and RR types appear

similar to the national survey norms.

Discussion. The most prominent distinction between the total adolescent group and the findings from the adult survey is that the predominant rhetorical type in the high school sample is the Noble Self. The total adolescent sample is comprised of 29 percent NS subjects compared with 14.5 percent in the national survey. One possible interpretation of this finding is that NS tendencies may be more characteristic of late adolescence than the adult period represented by the national RHETSEN sample. Perhaps, as the adolescent makes the transition to adulthood, encoding attitudes are modified in accordance with changing roles and responsibilities. However, given the sample size of the present study, generalizations about differences in adolescent and adult communicative attitudes are speculative. If the sample was expanded and consisted of more age distinctive groups, future studies may discern characteristic age differences in rhetorical predisposition. Researchers may then postulate how encoding patterns are shaped and modified as the individual matures.

When comparing the two BP groups in the present sample, the rhetorical profile of the hypertensive group appears different from the normotensive group. The distinction is that the pure RS and NS types appear more characteristic of the hypertensive group than the normotensive group.

A comparison of the distribution of the rhetorical types in the two BP groups reveals a higher frequency of "pure" RS and NS adolescents in the hypertensive group: 72 percent of the subjects' scores in the hypertensive group reveal either the RS or NS predisposition. No pure RR types were found in the hypertensive group. In contrast to this, approximately 42 percent of the normotensive group is proportionately comprised of the NS and RS pure types. In addition, 5 percent of the normotensive subjects are

pure RRs. These findings suggest that a hypertensive adolescent is more likely to have dominant RS or NS communicative tendencies than the normotensive adolescent.

Similar comparisons between the two BP groups' distribution into the "high" and "low" categories on the AQ and ALCEQ indicate that almost two-thirds of the hypertensive group are categorized as "low" in both self-reported assertive behavior and total life change unit (LCU) scores. In contrast to this, the normotensive subjects' scores on the AQ and ALCEQ are almost equally divided into either the "high" or "low" categories. The relative frequency distribution of hypertensive subjects on the AQ and RHETSEN suggest that in the hypertensive group there is an increased probability of an incongruency occurring between low assertiveness and either the NS or RS attitudinal predisposition. To determine if communicative incongruencies are more characteristic of the hypertensive group, individual scores on the three RHETSEN scales and the AQ were analyzed from the total sample.

Incongruency Patterns

Results. The four communicative attitude/behavior incongruencies proposed by Carlson and Brilhart(1980) are: low assertive - high noble self; low assertive-high rhetorically sensitive; high assertive - high rhetorical reflector; and low assertive - rhetorically ambivalent. "High" and "low" score assignments are conservatively defined as 1 s.d. above or below the mean score on a given scale. The score criteria and normative values for the four incongruent relationships were determined from the Carlson and Brilhart (1980) study and are presented in Table 6.

Table 6

Score Criteria for Incongruent Communicative Attitudes/Behavior Types

| | Scales (Carlson & Brilhart, 1980) | | | |
|---|---|---|---|---|
| | AQ | RS | NS | RR |
| mean score | 13.6 | 31.2 | 15.5 | 6.3 |
| 1 s.d. | 5.0 | 7.8 | 6.7 | 3.6 |

| Incongruent Patterns | Score Criteria | | | |
|---|---|---|---|---|
| Low Assertive | 1 s.d. $>_M$ AQ | | | |
| High Noble Self | 1 s.d. $>_M$ NS | 1 s.d. $<_M$ RS | 1 s.d. $<_M$ RR | |
| Low Assertive | 1 s.d. $>_M$ AQ | | | |
| High Rhetorical Sensitivity | 1 s.d. $<_M$ NS | 1 s.d. $>_M$ RS | 1 s.d. $<_M$ RR | |
| High Assertive | 1 s.d. $<_M$ AQ | | | |
| High Rhetorical Reflector | 1 s.d. $<_M$ NS | 1 s.d. $<_M$ RS | 1 s.d. $>_M$ RR | |
| Low Assertive | 1 s.d. $>_M$ AQ | | | |
| Rhetorically Ambivalent | 1 s.d. $>_M$ NS | 1 s.d. $<_M$ RS | 1 s.d. $>_M$ RR | |

Before determining if any adolescent AQ and RHETSEN scores reveal an incongruent pattern, the hypertensive group was reassessed according to the criteria designated in Carlson and Brilhart (1980): those subjects who had identifiable factors that potentially could be related to elevated BP were not included in the AQ/RHETSEN assessment. In the group of fourteen adolescents, six were noticeably overweight and four reported a family history of hypertension. Therefore, AQ/RHETSEN scores for four adolescents

from the original hypertensive group were included in the assessment.

AQ/RHETSEN scores indicate that three of the four adolescents with unexplained elevated BP had an incongruency between communicative attitudes and perceptions of communicative behavior. This finding is statistically significant (Fisher Exact Test, $p < .01$).

In addition to the three incongruencies from the hypertensive group, one subject in the normotensive group had an incongruent AQ/RHETSEN pattern. The AQ and RHETSEN scores for the four adolescents classified as "incongruent" are presented in Table 7.

ALCEQ mean scores are also reported. It is noted that ALCEQ values for all four incongruent subjects are below the ALCEQ mean score for the total adolescent group.

Table 7

AQ, RHETSEN, and ALCEQ Scores of Subjects With an Incongruent Pattern

| Incongruent Type | BP Group | Sex | AQ | RS | NS | RR | ALCEQ |
|---|---|---|---|---|---|---|---|
| Low Assert High RS | 1 | F | 19 | 46 | 5 | 3 | 534 |
| Low Assert High RS | 2 | M | 19 | 40 | 9 | 2 | 448 |
| Low Assert High NS | 2 | M | 21 | 24 | 22 | 3 | 372 |
| Low Assert High RS | 2 | M | 18 | 41 | 7 | 3 | 340 |

Discussion. It is noted that only two of the four incongruent patterns described by Carlson and Brilhart (1980) are indicated by the adolescents' scores: low assertive - high rhetorically sensitive and low assertive - high noble self. This finding was not surprising since only two adolescents in the total sample were rhetorical reflectors and no subjects' scores revealed rhetorical ambivalence.

The only adolescent classified as an incongruent type in the normotensive group is also the only female in the total sample with an incongruency. This finding may lend support to Carlson and Brilhart's conjecture that females are able to "tolerate" discrepancies between communicative attitudes and perceptions of self-assertiveness better than males (1980). This finding warrants further study. It is possible that incongruent females physiologically manifest internal communicative tension differently than males--via an alternate somatic system (i.e. digestive, endocrine, etc.). This finding may also be indicative of communicative differences between the sexes; incongruent type males and females may cope differently with perceived communicative inconsistencies. Perhaps for incongruent females, their intrapersonal transactions provide a release mechanism which dissipates internal tension. Contemporary research supports the notion that various forms of self-communication activities (biofeedback, meditation, relaxation techniques) are associated with reductions in physiological manifestations of stress (Seer, 1979). Possibly future research will explore the content of one's intrapersonal messages and discover a relationship between self-reflexiveness and stress management.

Normotensive/Hypertensive Comparisons on ALCEQ Items

Results. The ALCEQ cross-tabulations of the two BP groups' responses revealed a significant difference of $p < .05$ on only one change experience. Eleven normotensive

adolescents reported that in the past year they had experienced not being selected for a school/social activity whereas no hypertensive subjects indicated this experience on the ALCEQ. One other event that relatively more normotensive subjects reported experiencing was starting a new job. Twenty-five normotensive subjects reported this experience compared with six in the hypertensive group. However, the confidence level was only $.05 < p < .10$.

Several different events were experienced by a relatively greater proportion of hypertensive subjects although the level of significance was only $.05 < p < .10$. These experiences included the following: death of a close friend; parent/relative very sick; trouble with teacher/principal; break up with girl/boy friend; and problems with dating. One common factor in these change events appears to be the interpersonal dimension.

In Appendix F, the 38 life change events are ranked with corresponding stress levels quantified in life change units (LCU's). It was noted that events which were experienced by proportionately more hypertensive subjects ($.05 < p < .10$) were also ranked higher in LCU's than those events that a significantly greater proportion of normotensive subjects had experienced. This finding is noteworthy since the normative data in Table 1 indicated that the hypertensive ALCEQ mean score (523) was lower than the normotensive ALCEQ mean score (573).

Discussion. It appears that the quantitative measurement of stress represented by LCU scores is not a predictor of elevated BP or communicative incongruencies. However, the qualitative nature of life change events does warrant further study. Most likely there are dimensions within some change experiences that are more directly related to communicative attitudes/behavior than other events. A factor

analysis of the events given in the ALCEQ may reveal transactional dimensions that would link life experiences to communicative attitudes and self-perceptions of communicative behavior. Perhaps if one were to repeatedly experience events which are intrinsically related to a yet unidentified transactional dimension, those experiences would precipitate EHT in the individual with latent incongruent tendencies.

# Chapter IV

## Conclusion to the Study

### Summary

The preliminary comparison of adolescent normative scores with earlier studies suggests that high school seniors' communicative attitudes, self-perceptions of communicative behavior, and life change experiences are within the range of normative findings reported in Mendez et al. (1980), Hart et al. (1980), and Carlson and Brilhart (1980). Normative comparisons between the two BP groups ("hypertensive" and "normotensive") mean scores reveal no significant differences between the normotensive and hypertensive ALCEQ, RHETSEN, and AQ mean scores.

Correlation coefficients between the two BP groups' scores on the three instruments do suggest the following differences between the normotensive and hypertensive groups:

- In the normotensive group, NS attitudes are positively correlated with perceptions of assertiveness and life change experiences, whereas, RS attitudes appear negatively correlated with assertiveness.
- In the hypertensive group, RR attitudes are positively correlated with life change experiences and negatively correlated with perceptions of assertiveness. A negative correlation is also revealed between RR attitudes and assertiveness.

After exploring the high school seniors' normative patterns in communicative attitudes/perceptions of behavior and change experiences, the study focused on individual patterns in AQ, RHETSEN, and ALCEQ scores within both BP groups.

A profile of the subjects' rhetorical predisposition, assertiveness level, and experienced life change reveals these distinctions:

- Approximately 50 percent of the normotensive group consists of "pure" rhetorical types. This percentage is comparable to the proportion revealed in the national RHETSEN survey of college-age or older subjects.
- Approximately an equal portion of normotensive subjects are categorized as either high or low in assertiveness and life change experiences.
- In the hypertensive group, 72 percent of the subjects are identified as either "pure" RS or NS types. None of the hypertensive scores reveal the "pure" RR predisposition.
- In the hypertensive group, 65 percent of the subjects are categorized as low assertive and low life change.

Given the relative distribution of both normotensive and hypertensive scores within the AQ and RHETSEN categories, there appears to be a greater likelihood that incongruencies will be found in the hypertensive group.

The assessment of individual RHETSEN and AQ scores does reveal that three of the four adolescents with unexplained elevated BP have an incongruency between RHETSEN/AQ scores. This finding is statistically significant. Only one subject in the normotensive group had an incongruent RHETSEN/AQ pattern.

No major differences were found in the amount and type of life change experiences reported by normotensive and hypertensive adolescents. The only significant difference between the normotensive and hypertensive group is found in one event: eleven normotensive adolescents reported experiencing not being selected for a school/social activity compared with none in the hypertensive group.

## Limitations

Since the adolescent sample was relatively small and non-random, interpretations of the study's findings are made with caution. Related to this concern is the disparity between the number of subjects in the two BP groups. Given these constraints, generalizability beyond this sample is limited.

Another significant limitation is related to the assumption that four to six elevated BP readings are a valid and reliable indicator of essential hypertension. Obviously many extraneous factors could contribute to temporary BP elevations -- i.e. medications, activity level prior to measurement, oral interaction during measurement, etc. Many of these factors were not rigorously controlled during data collection sessions. It is also uncertain whether subjects reported medications, personal health data, and family health history accurately and completely to the different interviewers. Given these factors, the assignment of subjects into normotensive and hypertensive groups could be questioned.

## Recommendations for Future Research

Methodological recommendations for future study of adolescents' communicative patterns would be to increase the number of subjects to include a random sampling of groups spanning early to late adolescence. Such studies may discover distinctive patterns in communicative attitudes/perceptions that would correspond to particular stages in adolescent development. Cross-sectional and longitudinal studies that would include significant transitional periods during adolescence may also provide clues as to how communicative attitudes are related to the process of maturation. However, if future communication studies are expanded to include samples of early and middle adolescent populations, the items on the AQ and RHETSEN would likely need to be

modified to reflect the experiences and perceptions of the younger subject.

Life change events, per se, do not appear to be directly related to incongruent communicative patterns and elevated BP. However, future studies may identify distinctive communicative dimensions within adolescent life change events that are related to the development of attitudes toward encoding spoken messages and perceptions of communicative behavior.

The paucity of incongruent communicative attitude/perception of behavior types in the high school sample suggests that communicative incongruencies are not prevalent in the adolescent population. Future longitudinal or cross-sectional studies may determine that communicative incongruencies are more characteristic of an older adult population. Therefore, adolescence may be an appropriate period to identify individuals with tendencies toward communicative incongruencies before such patterns become firmly established. With appropriate training, adolescents may be able to modify attitudinal/behavioral patterns before communicative stress has a detrimental impact on their health.

# APPENDIX A

# BLOOD PRESSURE PROTOCOL

1. Plug in the microphone jack and connect the cuff tube to the front panel of the Pentax blood pressure instrument

2. Check the instrument for normal functioning by depressing the "check" button. Normal functioning is indicated by the presence of a red light in the upper left corner of the instrument

3. Position the subject's forearm at the horizontal level of the fourth intercostal space at the sternum for seated and standing blood pressure measurements. For supine blood pressure measurements, place the subject's arm along-side his/her body. No other positional adjustment is necessary as the arm is near heart level

4. Remove constrictive clothing and other coverings from the subject's arm

5. Press the thumb tightly against the subject's brachial artery area and determine the location of arterial pulsation

6. Position the cuff microphone (marked with a circle on the inner surface of the cuff) directly over the pulsation

7. Apply the arm cuff snugly and tightly while maintaining proper positioning of the microphone

8. Close the airvalve, partially, and pump up the cuff to 150-200 millimeters of mercury. When the desired level is reached, close the airvalve tightly

9. Deflate the cuff at a rate of two millimeters of mercury per second

10. Systolic blood pressure is signaled by a flashing red light. If the audio signal is used, systolic blood pressure is signaled by simultaneous flashing light and audio tone

11. Diastolic blood pressure is signaled by cessation of the flashing light. If the audio signal is used, the diastolic pressure is indicated by simultaneous cessation of the flashing light and audio tone

12. Open theairvalve fully and release all air

13. Remove the cuff from the subject's arm

14. Record the systolic and diastolic blood pressure measurements on Data Base I

SOURCE: American Heart Association, Recommendations for human blood pressure determination. New York, The American Heart Association, 1967.

Guidelines for use of the Pentax Blood Pressure Instrument, User's Manual.

# APPENDIX B

## PART ONE

The following 35 statements concern how you relate to others. Check (✓) either YES or NO in response to these statements. If the answer that is true or most generally true for you is "yes," check (✓) the space in the YES column. If the answer that is true or most generally true for you is "no," check (✓) the space in the NO column.

| | | YES | NO |
|---|---|---|---|
| 1. | When a person is blatantly unfair, do you usually fail to say something about it to him? | ___ | ___ |
| 2. | Do you often avoid social contacts for fear of doing or saying the wrong thing? | ___ | ___ |
| 3. | If you had a roommate, would you insist that he or she do their fair share of cleaning? | ___ | ___ |
| 4. | When a clerk in a store waits on someone who has come in after you, do you call his attention to the matter? | ___ | ___ |
| 5. | If someone who has borrowed $5 from you seems to have forgotten about it, would you remind this person? | ___ | ___ |
| 6. | If a person keeps on teasing you, do you have difficulty expressing your annoyance or displeasure? | ___ | ___ |
| 7. | Would you remain standing at the rear of a crowded auditorium rather than look for a seat up front? | ___ | ___ |
| 8. | If someone keeps kicking the back of your chair in a movie, would you ask him to stop? | ___ | ___ |
| 9. | If a friend keeps calling you very late each evening, would you ask him or her not to call after a certain time? | ___ | ___ |
| 10. | If someone starts talking to someone else right in the middle of your conversation, do you express your irritation? | ___ | ___ |
| 11. | In a plush restaurant, if you order a medium steak and find it too raw, would you ask the waiter to have it recooked? | ___ | ___ |
| 12. | If someone you respect expresses opinions with which you strongly disagree, would you venture to state your own point of view? | ___ | ___ |
| 13. | Are you usually able to say "no" if people make unreasonable requests? | ___ | ___ |

| Questionnaire--Part One | YES | NO |
|---|---|---|
| 14. Do you protest out loud when someone pushes in front of you in a line? | ____ | ____ |
| 15. Is it difficult for you to upbraid a subordinate? | ____ | ____ |
| 16. Are you inclined to be overapologetic? | ____ | ____ |
| 17. Would you be very reluctant to change a garment bought a few days previously which you discover to be faulty? | ____ | ____ |
| 18. If a friend unjustifiably criticized you, do you express your resentment there and then? | ____ | ____ |
| 19. Do you usually try to avoid "bossy" people? | ____ | ____ |
| 20. If a salesman has gone to considerable trouble to show you some merchandise which is not quite suitable, do you have difficulty saying "no"? | ____ | ____ |
| 21. Do you generally express what you feel? | ____ | ____ |
| 22. If you heard that one of your friends was spreading false rumors about you, would you hesitate to "have it out" with him? | ____ | ____ |
| 23. Do you usually keep your opinions to yourself? | ____ | ____ |
| 24. Do you find it difficult to begin a conversation with a stranger? | ____ | ____ |
| 25. Are you able openly to express love and affection? | ____ | ____ |
| 26. Are you careful to avoid hurting other people's feelings? | ____ | ____ |
| 27. If you were at a lecture and the speaker made a statement that you considered erroneous, would you question it? | ____ | ____ |
| 28. If an older and respected person made a statement with which you strongly disagreed, would you express your own point of view? | ____ | ____ |
| 29. Do you usually keep quiet "for the sake of peace"? | ____ | ____ |
| 30. If a friend makes what you consider to be an unreasonable request, are you able to refuse? | ____ | ____ |

| Questionnaire--Part One | YES | NO |
|---|---|---|
| 31. If after leaving a shop you notice that you have been given short change, do you go back and point out the error? | ___ | ___ |
| 32. If a close and respected relative were annoying you, would you smother your feelings rather than express your annoyance? | ___ | ___ |
| 33. Do you find it easier to show anger towards people of your own sex than to members of the opposite sex? | ___ | ___ |
| 34. Is it difficult for you to compliment and praise others? | ___ | ___ |
| 35. Do you admire people who justifiably strike back when they have been wronged? | ___ | ___ |

## PART TWO

Please respond to each of the following statements individually and be assured that there are no right or wrong answers. For each statement please indicate your opinion by checking ( ) one of the following:

A = almost always true
B = frequently true
C = sometimes true
D = infrequently true
E = almost never true

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 36. People should be frank and spontaneous in conversation. | ___ | ___ | ___ | ___ | ___ |
| 37. An idea can be communicated in many different ways. | ___ | ___ | ___ | ___ | ___ |
| 38. When talking with someone with whom you disagree, you should feel obligated to state your opinion. | ___ | ___ | ___ | ___ | ___ |
| 39. A person should laught at an unfunny joke just to please the joke-teller. | ___ | ___ | ___ | ___ | ___ |
| 40. It's good to follow the rule: before blowing your top at someone, sleep on the problem. | ___ | ___ | ___ | ___ | ___ |

Questionnaire - Part Two

A-almost always true; B-frequently true; C-sometimes true; D-infrequently true; E-almost never true

| | | A | B | C | D | E |
|---|---|---|---|---|---|---|
| 41. | When talking to others, you should drop all of your defenses. | ___ | ___ | ___ | ___ | ___ |
| 42. | It is best to hide one's true feelings in order to avoid hurting others. | ___ | ___ | ___ | ___ | ___ |
| 43. | No matter how hard you try, you just can't make friends with everyone. | ___ | ___ | ___ | ___ | ___ |
| 44. | One should keep quiet rather than say something which will alienate others. | ___ | ___ | ___ | ___ | ___ |
| 45. | You should share your joys with your closest friends. | ___ | ___ | ___ | ___ | ___ |
| 46. | It is acceptable to discuss religion with a stranger. | ___ | ___ | ___ | ___ | ___ |
| 47. | A supervisor in a work situation must be forceful in his or her communication with subordinates to be effective. | ___ | ___ | ___ | ___ | ___ |
| 48. | A person should tell it like it is. | ___ | ___ | ___ | ___ | ___ |
| 49. | "Look before you leap" is the most important rule to follow when talking to others. | ___ | ___ | ___ | ___ | ___ |
| 50. | You should tell a friend if you think they are making a mistake. | ___ | ___ | ___ | ___ | ___ |
| 51. | The first thing that comes to mind is the best thing to say. | ___ | ___ | ___ | ___ | ___ |
| 52. | When conversing, you should tell others what they want to hear. | ___ | ___ | ___ | ___ | ___ |
| 53. | When someone dominates the conversation, it's important to interrupt them in order to state your opinion. | ___ | ___ | ___ | ___ | ___ |

Questionnaire - Part Two

A-almost always true; B-frequently true; C-sometimes true; D-infrequently true; E-almost never true

| | | A | B | C | D | E |
|---|---|---|---|---|---|---|
| 54. | When angry, a person should say nothing rather than say something he or she will be sorry for later. | ___ | ___ | ___ | ___ | ___ |
| 55. | When someone has an irritating habit, they should be told about it. | ___ | ___ | ___ | ___ | ___ |
| 56. | When talking to your friends, you shoud adjust your remarks to suit them. | ___ | ___ | ___ | ___ | ___ |
| 57. | You really can't put sugar coating on bad news. | ___ | ___ | ___ | ___ | ___ |
| 58. | A person who speaks his or her gut feelings is to be admired. | ___ | ___ | ___ | ___ | ___ |
| 59. | You shouldn't make a scene in a restaurant by arguing with a waiter. | ___ | ___ | ___ | ___ | ___ |
| 60. | Putting thoughts into words just the way you want them is a difficult process. | ___ | ___ | ___ | ___ | ___ |
| 61. | A friend who has bad breath should be told about it. | ___ | ___ | ___ | ___ | ___ |
| 62. | If you're sure you're right, you shoud argue with a person who disagrees with you. | ___ | ___ | ___ | ___ | ___ |
| 63. | If people would open up to each other the world would be better off. | ___ | ___ | ___ | ___ | ___ |
| 64. | There is a difference between someone who is "diplomatic" and one who is "two-faced." | ___ | ___ | ___ | ___ | ___ |
| 65. | You should tell someone if you think they are about to embarrass themselves. | ___ | ___ | ___ | ___ | ___ |
| 66. | One should not be afraid to voice his or her opinion. | ___ | ___ | ___ | ___ | ___ |
| 67. | If your boss doesn't like you, there's not much you can do about it. | ___ | ___ | ___ | ___ | ___ |

Questionnaire - Part Two

A-almost always true; B-frequently true; C-sometimes true; D-infrequently true; E-almost never true

| | | A | B | C | D | E |
|---|---|---|---|---|---|---|
| 68. | You should tell someone if you think they are giving you bad advice. | ___ | ___ | ___ | ___ | ___ |
| 69. | Saying what you think is a sign of friendship. | ___ | ___ | ___ | ___ | ___ |
| 70. | When you're sure you're right, you should press your point until you win the argument. | ___ | ___ | ___ | ___ | ___ |
| 71. | "If you feel it, say it," is a good rule to follow in conversation. | ___ | ___ | ___ | ___ | ___ |
| 72. | If a man cheats on his wife, he should tell her. | ___ | ___ | ___ | ___ | ___ |
| 73. | It is better to speak your gut feelings than to beat around the bush. | ___ | ___ | ___ | ___ | ___ |
| 74. | We should have a kind word for people we meet in life. | ___ | ___ | ___ | ___ | ___ |
| 75. | One should treat all people in the same way. | ___ | ___ | ___ | ___ | ___ |

## PART THREE

This final part contains descriptions of 38 events that you may have experienced. Read over each event and think if this event has happened to you in the past year. If this event has happened in the past year, check ( ) the space in the YES column. If this event has not happened in the past year, check ( ) the space in the NO column.

| | | YES | NO |
|---|---|---|---|
| 76. | Hassling with parents . . . . . | ___ | ___ |
| 77. | Change in physical appearance (braces, glasses, etc.) . . . | ___ | ___ |
| 78. | Problems with dating . . . . . | ___ | ___ |
| 79. | Starting a new school . . . . . | ___ | ___ |
| 80. | Hassling with brother or sister | ___ | ___ |

Questionnaire - Part Three

| | | YES | NO |
|---|---|---|---|
| 81. | Getting into drugs or alcohol | ___ | ___ |
| 82. | Losing a favorite pet | ___ | ___ |
| 83. | Mother getting pregnant | ___ | ___ |
| 84. | Moving to a new home | ___ | ___ |
| 85. | Failing one or more subjects in school | ___ | ___ |
| 86. | Death of mother | ___ | ___ |
| 87. | Being arrested by the police | ___ | ___ |
| 88. | Having someone new move in with your family (grandparent, adopted brother or sister, or other) | ___ | ___ |
| 89. | Parent losing a job | ___ | ___ |
| 90. | Getting badly hurt or sick | ___ | ___ |
| 91. | Quitting school | ___ | ___ |
| 92. | Brother or sister dying | ___ | ___ |
| 93. | Brother or sister getting married | ___ | ___ |
| 94. | Family member (other than yourself) having trouble with alcohol | ___ | ___ |
| 95. | Close girlfriend getting pregnant | ___ | ___ |
| 96. | Breaking up with a close girlfriend or boyfriend | ___ | ___ |
| 97. | Parents getting divorced or separated | ___ | ___ |
| 98. | Parent or relative in your family (other than yourself) getting very sick | ___ | ___ |
| 99. | Close friend dying | ___ | ___ |
| 100. | Trouble with teacher or principal | ___ | ___ |
| 101. | Flunking a grade in school | ___ | ___ |

Questionnaire - Part Three

| | | YES | NO |
|---|---|---|---|
| 102. | Making new friends . . . . . | ___ | ___ |
| 103. | Problems with menstrual periods (for girls) . . . . . | ___ | ___ |
| 104. | Starting a job . . . . . | ___ | ___ |
| 105. | Losing a job . . . . . | ___ | ___ |
| 106. | Problems with acne . . . . . | ___ | ___ |
| 107. | Wrecking the car . . . . . | ___ | ___ |
| 108. | Getting grounded . . . . . | ___ | ___ |
| 109. | Not making an extracurricular activity (i.e., athletic team, band, etc.) . . . . . | ___ | ___ |
| 110. | Death of father . . . . . | ___ | ___ |
| 111. | Problems with size (too tall, too short, too heavy, etc.) . . | ___ | ___ |
| 112. | Sister getting pregnant . . . . . | ___ | ___ |
| 113. | Brother getting someone pregnant . . . . . | ___ | ___ |

# APPENDIX C

UNIVERSITY OF NEBRASKA
COLLEGE OF NURSING
OMAHA, NEBRASKA
HYPERTENSION STUDY

DATE _____ DATA BASE I Subject Number _____

1. DEMOGRAPHIC DATA

Birthdate _____ School Number _____
Month Day Year

Birthplace _____ Sex: Male _____ Female _____
City County State

United States Citizen: Predominant Ethnic Background:

____AMERICAN INDIAN OR ____ ALASKAN NATIVE. Check appropriate category. (A person having origin in any of the original peoples of North America.)

____ASIAN OR PACIFIC ISLANDER (A person having origins in any of the Pacific Islands. This area includes, for example, China, Japan, Korea, the Phillippine Islands, and Samoa.)

____BLACK, Not of Hispanic Origin. (A person having origins in any of the black racial groups.)

____HISPANIC. Check Subcategory (A person of ____Mexican, ____Puerto Rican, ____Cuban, ____Central or South American or other Spanish Culture or Origin, regardless of race.)

____WHITE, Not of Hispanic Origin (A person having origins in any of the original peoples of Europe, North America, the Middle East, or the Indian Subcontinent.

2. FAMILY HEALTH HISTORY

Has any relative suffered from the following diseases:

| | Relationship | | Relationship |
|---|---|---|---|
| Heart Disease | _____ | Asthma | _____ |
| Diabetes | _____ | Hay Fever | _____ |
| Epilepsy | _____ | High Blood Pressure | _____ |
| Kidney Disease | _____ | Other | _____ |

3. MEASUREMENTS AND OTHER FINDINGS

1. Height _____
2. Weight _____
3. Pulse (arm at heart level):
   Initial _____
   After Mental Arithmetic _____
4. Triceps Skinfold Thickness:
   First _____
   Second _____
   Reliability _____

5. Blood Pressure

| Position | Arm | Reading | Date |
|---|---|---|---|
| Screening | Right | | |
| Sitting | Right | | |
| Standing | Right | | |
| Lying | Right | | |
| Sitting | Left | | |
| Sitting (After Stress) | Right | | |
| Sitting (Reliability) | Right | | |

4. PERSONAL HEALTH HISTORY – answer all questions, comment on all "yes" answers below.

| HAVE YOU HAD: | YES | NO | HAVE YOU HAD: | YES | NO |
|---|---|---|---|---|---|
| Chronic Diseases Asthma | | | Heart Disease | | |
| Hay Fever | | | Arthritis | | |
| Chronic Bronchitis | | | Kidney Disease | | |
| Diabetes | | | High Blood Pressure | | |
| Urinary Tract Infection | | | Rheumatic Fever | | |
| | | | Other | | |

If you checked "yes" to any of the above questions, please give details in the space below.

Do you smoke? Yes ____ No____ If yes, how many per day _____

How long have you smoked? _____

Does anyone in your family smoke? Yes___ No___

Medications taken within the past year: Name medicine if possible.

Cold Medications _____

Aspirin _____

Birth Control Pills _____

Allergy Medication _____

Other (Specify) _____

# APPENDIX D

university of
nebraska UNO
at omaha

College of Arts and Sciences
Department of Communication 402/554-2600
Broadcasting 402/554-2600
Journalism 402/554-2520
Speech 402/554-2600

Omaha, Nebraska 68182

March 15, 1982

Mrs. Donna Cheney
Psychological Services
Omaha Public Schools
3819 Jones Street
Omaha, Nebraska 68105

Dear Mrs. Cheney:

I am a graduate student of Communication at UNO. Because of my experiences as a student, parent, and health professional, I am interested in studying adolescent communication.

During my graduate work, I became familiar with the Adolescent Life Change Event Scale (ALCES) which lists a number of personal, family, and social changes that may occur to adolescents. For some students, life change experiences may have an adverse effect on their academic performance, social development, and/or physical well-being. I would like to explore the relationship between life change experiences and attitudes toward communication by administering the ALCES and a communication self report instrument to a sample of high school senior students.

Recently I assisted in data collecting for a different study in which a group of high school seniors participated. I would like permission to administer a three-part questionnaire to a sample of approximately fifty volunteers from this group.

All three parts of the questionnaire have had prior approval by OPS and were administered in earlier independent studies. The questionnaire would take thirty minutes for the student to complete. All statements contained in the questionnaire are non-threatening; there are no right or wrong answers nor are any value judgments implied in the questionnaire statements. There is no risk of any type to students completing the questionnaire. Responses by students will be treated confidentially and only for the purposes of this study. Identity of participating students will not be revealed.

This pilot study would explore the relationship between experienced life change events and perceived communication behavior and attitudes. Preliminary findings may suggest ways to assist students who are experiencing numerous life changes. Studies such as this may become a valuable resource for teachers and counselors in promoting adaptive communication behavior and attitudes which are necessary for both vocational and interpersonal growth of the student.

When completed with this study, I would send you a written report of the findings. If there are any questions about my proposed study, you may contact me at work (558-6220) or my graduate advisor, Dr. Robert Carlson (554-2600).

Sincerely,

Susan Falvo

Susan Falvo

Robert E. Carlson, Ph.D.
Graduate Adviser

Enclosures

# APPENDIX E

*TO STUDENTS PARTICIPATING IN THE HYPERTENSIVE STUDY:*

*This is a survey to learn about your communication behavior and how it may relate to different events that may have occurred to you. The questionnaire contains three parts. Your name will not be used on any part of the questionnaire and all of your answers will be confidential.*

*Separate instructions are given for each of the three parts of the questionnaire. Please read the instructions carefully. If you have any problem understanding any part of the questionnaire, please ask the person administering the questionnaire.*

*Your cooperation on the survey will help us learn more about the experiences and opinions of teenagers. Please answer all questions in each part honestly; your answers should reflect <u>your</u> experiences and opinions. There are no right or wrong answers.*

*It should take you about 30 minutes to complete the following questionnaire.*

*Thank you for your participation.*

# APPENDIX F

## ADOLESCENT LIFE CHANGE EVENT SCALE (Modified)

| Rank | Life Change Event | Life Change Units* |
|---|---|---|
| 1. | Death of father | 98 |
| 2. | Death of mother | 98 |
| 3. | Death of brother/sister | 95 |
| 4. | Death of close friend | 93 |
| 5. | Parents divorced/separated | 86 |
| 6. | Flunking a grade | 85 |
| 7. | Arrested by police | 85 |
| 8. | Failing a subject | 84 |
| 9. | Family member drinking | 80 |
| 10. | Wrecking the car | 79 |
| 11. | Losing a favorite pet | 78 |
| 12. | Parent/relative very sick | 77 |
| 13. | Quitting school | 76 |
| 14. | Break up with boy/girl friend | 74 |
| 15. | Losing a job | 73 |
| 16. | Parent losing a job | 73 |
| 17. | Close girlfriend pregnant | 72 |
| 18. | Into drugs/alcohol | 70 |
| 19. | Badly hurt/sick | 63 |
| 20. | Trouble with teacher/principal | 62 |
| 21. | Hassling with parents | 60 |
| 22. | Getting grounded | 57 |
| 23. | Brother getting someone pregnant | 57 |
| 24. | Problems with acne | 57 |
| 25. | Problems with size (short, tall, heavy) | 56 |
| 26. | Not selected for an activity | 55 |
| 27. | Sister getting pregnant | 54 |
| 28. | Problems with dating | 51 |
| 29. | Starting new school | 50 |
| 30. | Moving to new home | 49 |
| 31. | Change in physical appearance (braces, glasses) | 46 |
| 32. | Menstruation (females only) | 45 |
| 33. | Hassling with brother/sister | 44 |
| 34. | Someone new moving into family | 37 |
| 35. | Starting new job | 33 |
| 36. | Mother getting pregnant | 32 |
| 37. | Making new friends | 27 |
| 38. | Brother/sister getting married | 25 |

*Figures rounded to nearest whole numbers

References

Alexander, F. Psychosomatic Medicine. Its Principles and Application. New York: Norton, 1950.

Boland, J. M. An experimental investigation into the outcomes of assertion training with non-assertive clients. (Doctoral Dissertation, University of Nebraska-Lincoln, 1974.) Dissertation Abstracts International, 1975, 36, 699A. (University Microfilms No. 75-16, 882.)

Carlson, R. E. Rhetorical sensitivity: Theoretical perspective, measurement, and implications in an interpersonal and organizational context. (Doctoral Dissertation, Purdue University, 1978.) Dissertation Abstracts International, 1978, 39, 2615A. (University microfilms No. 78-21,426.)

Carlson, R. E., & Brilhart, J. K. Communicative attitudes and perceptions of behavior: Predictors of essential hypertension. Unpublished paper presented at the annual convention of the International Communication Association, Acapulco, Mexico, 1980.

Coddington, R. D. The significance of life events as etiologic factors in the diseases of children. I. A survey of professional workers. Journal of Psychosomatic Research, 1972, 16, 7-18.

Coddington, R. D. The significance of life events as etiologic factors in the diseases of children. II. A study of a normal population. Journal of Psychosomatic Research, 1972, 16, 205-213.

Currey, K. A case study of the effectiveness of assertive communication training on hypertension in college-age males. Unpublished masters thesis, Univerity of Nebraska at Omaha, 1979.

Darnell, D. K, & Brockriede, W. Persons Communicating. Englewood Cliffs, New Jersey: Prentice-Hall, 1976.

Dembroski, T. M., MacDougall, J. M., & Lushene, R. Interpersonal interaction and cardiovascular response in type A subjects and coronary patients. Journal of Human Stress, 1979, 5 (4), 28-36.

Golding, D., Hernandez, A., Choi, S., Lee, J., Londe, S., Lindgren, F., & Burton, R. Blood pressure in a high school population. Journal of Pediatrics, 1979, 95 (2), 298-304.

Handkins, R. E. & Munz, D. C. Essential hypertension and self-disclosure. Journal of Clinical Psychology, 1978, 34, 870-875.

Hart, R. P. & Burks, D. M. Rhetorical sensitivity and social interaction. Speech Monographs, 1972, 39, 75-91.

Hart, R. P., Carlson, R. E., & Eadie, W. E. Attitudes toward communication and assessment of rhetorical sensitivity. Communication Monographs, 1980, 47, 1-22.

Holmes, T. H. & Rahe, R. H. The social readjustment rating scale. Journal of Psychosomatic Research, 1967, 11, 213-218.

Kilcoyne, M M., Richter, R. W., & Alsup, P. A. Adolescent hypertension. I. Detection and prevalence. Circulation, 1974, 50, 758-764.

Lazarus, R. S. A strategy for research on psychological and social factors in hypertension. Journal of Human Stress, 1978, 4 (3), 35-40.

Lazarus, R. S., Cohen, J. B., Folkman, S., Kanner, A., & Scheafer, C. Psychological stress and adaptation: Some unresolved issues in H. Selye (Ed.) Selye's Guide to Stress Research (Vol. 1). New York: Van Norstrand Reinhold 1980.

Linden, W. & Feuerstein, M. Essential hypertension and social coping behavior. Journal of Human Stress, 1981, 1 (1), 28-34.

Lipowski, Z. J. Psychosomatic medicine in the seventies: An overview. American Journal of Psychiatry, 1977, 134, 233-244.

Loggie, J. Systemic hypertension in children and adolescents, causes and treatments. Pediatric Clinics of North America, 1971, 18 (4), 1273-1280.

Londe, S., Bourgoinie, J. J., Robson, A. M., & Goldring, D. Hypertension in apparently normal children. Journal of Pediatrics, 1971, 78 (4), 569-577.

Lynch, J. J., Thomas, S. A., Long, J. M., Malinow, K. L., Chickadonz, G., & Katcher, A. H. Human speech and blood pressure. Journal of Nervous and Mental Disease, 1980, 168, 527-535.

Lynch, J. J., Long, J. M., Thomas, S. A., Malinow, K. L., & Katcher, A. H. The effects of talking on the blood pressure of hypertensive and normotensive individuals. Psychosomatic Medicine, 1981, 43 (1), 25-33.

Mendez, L., Yeaworth, R., York, J., & Goodwin, T. Factors influencing adolescent's perceptions of life change events. Nursing Research, 1980, 29 (6), 384-388.

McKinney, J. P., Fitzgerald, H. E., & Strommen, E. A. Developmental Psychology: The adolescent and young adult. Homewood, Illinois: Dorsey, 1982.

Myers, H. F. & Miles, R. E. Life events stress, subjective appraisal and somatization in hypertension: A pilot study. Journal of Human Stress, 1981, 7 (2), 17-27.

Pilowsky, I., Spalding, D., & Shaw, J. Hypertension and personality. Psychosomatic Medicine, 1973, 35, 50-56.

Rabkin, J. G. & Struening, E. Life events, stress, and illness. Science, 1976, 194, 1013-1020.

Sapira, J. D., Scheib, E. T., Moriarty, R., & Shapiro, A. P. Differences in perception between hypertensive and normotensive populations. Psychosomatic Medicine, 1971, 33, 239-250.

Seer, P. Psychological control of essential hypertension: Review of the literature and methodological critique. Psychological Bulletin, 1979, 86, 1015-1043.

Selye, H. Stress Without Distress. Philadelphia: Lippincott, 1974.

Selye, H. Introduction in H. Selye (Ed.) Selye's Guide to Stress Research (Vol. 1). New York: Van Norstrand Reinhold, 1980.

Shapiro, A. P. Behavioral and environmental aspects of hypertension. Journal of Human Stress, 1978, 4 (4), 9-17.

Stamler, J., Stamler, R., Riedlinger, W. F., Algera, G., & Roberts, R. H. Hypertension screening of 1 million Americans. Journal of the American Medical Association, 1976, 235, 2299-2306.

Torgersen, S. & Kringlen, E. Blood pressure and personality. A study of the relationship in systolic blood pressure and personality in monozygomatic twins. Journal of Psychosomatic Research, 1971, 15, 183-191.

Weiner, H., Singer, M. T., & Reiser, M. F. Cardiovascular responses and their psychological correlates: A study in healthy young adults and patients with peptic ulcer and hypertension. Psychosomatic Medicine, 1962, 24, 477-498.

Williams, R. B., Kimball, C. P., & Williard, H. N. The influence of interpersonal interaction of diastolic blood pressure. Psychosomatic Medicine, 1972, 34 (3), 194-198.

Wolf, S., Cardon, P. V., Jr., Shepard, E. M., & Wolff, H. G. Life Stress and Essential Hypertension. Baltimore: Williams & Wilkins, 1955.

Wolff, H. G. Stress and Disease (2nd Ed.). Springfield, Illinois: Thomas, 1968.

Yeaworth, R. C., York, J., Hussey, M. E., Ingle, N. E., & Goodwin, T. The development of an adolescent life change scale. Adolescence, 1980, 15(57), 90-97.