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Health is a common theme in various cultures and societies. Traditionally health is considered as “absence of disease”. In some cultures, health and harmony are conceived equivalent or interchangeable concepts. Harmony is defined as “being at peace with the self, the community, god and cosmos.” The ancient Greeks and Indians shared this concept and attributed disease to disturbance in bodily equilibrium of what they called “humors”.

Historically, the term ‘health’ is derived from an old Anglo-Saxon word ‘haelth’, meaning the conditions of being safe and sound, or whole. For a long time this historical definition was lost because of the common belief that health was in essence freedom from disease. Health as a relative concept, condition or state still has various meanings and interpretations for different people.

To the general public, being healthy may just mean ‘not being ill’. Health is taken for granted, only considered when illness or health problems are interfering with people’s everyday lives. Perhaps the more positive way in which the general public thinks of health is reflected in phrases like building up strength and having ‘resistance’ to infection. This implies, that health means strength and robustness, and having reserves which can be called upon to fight illness and cope with stress and fatigue.

Researchers in different settings have found a wealth of complex notions about health. For example, to mothers of families with small children, the capacity to cope with and function as expected was an important aspect of health, and they also associated positive health with being cheerful and enthusiastic. To the physical culturist health means a “body beautiful” exhibiting rippling muscles gained through performing a set of prescribed systematic exercises. To the physiologist it is the product of the normal function of cells, organs and systems. To the family physician it means constant supervision and care utilizing the most modern medical services.
including health guidance and periodic examinations, and the best equipment and facilities to ensure happy, zestful living of the total family.

**Definition of the World Health Organisation:**

The WHO defined health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". This definition is important because some fifty four nations reached international agreement on it at the first World Health Assembly in 1948.

The WHO definition goes beyond the mere absence of disease. It envisages three dimensions or components of health — physical, mental and social, all closely related. A fourth dimension has also been suggested, namely, spiritual health.

**Dimensions of Health:**

The above discussion and an analysis of the foregoing two definitions inevitably leads one to the conclusion that the concept of health is multidimensional. These dimensions may be briefly stated as follows:

(a) **Physical Health:**

This is perhaps the most obvious dimension of health and is concerned with the mechanistic functioning of the body. It conceptualizes health biologically as a state in which every cell and every organ is functioning at optimum capacity and in perfect harmony with the rest of the body. All the organs of the body are of unexceptional size and function normally; all the special senses are intact.

(b) **Mental Health:**

Mental and physical health are inter-related. The ancient concept, a sound mind in a sound body has been rehabilitated. Poor mental health affects physical health and vice versa. Psychological factors are considered to play a major role in disorders such as essential hypertension, peptic ulcer and asthma.
(c) **Social Health**:

Health cannot be isolated from social and cultural context. A person’s health is inextricably related to everything surrounding him. It is an established fact that it is not possible to raise the level of a people’s health without changing their social and cultural environments.

(d) **Spiritual Health**:

This for some people is connected with religious beliefs and practices; for others it is to do with personal creeds, principles of behavior and ways of achieving peace of mind and being at peace with oneself.

(e) **Positive Health**:

Health in this context has been described as a potentiality—the ability of an individual or a social group to modify himself or itself continually in the context of changing conditions of life.

**Determinants of Health**:

Health does not exist in isolation. It is influenced by a complex of factors, such as genetic, environmental, social and economic, etc. These are interrelated and contribute to the total functioning of the individual. The importance of these varied determinants of health can hardly be overemphasized. For the purpose of this study they are categorized as (a) heredity, (b) environment, (c) ways of living, (d) socio-economic status, and (e) health services.

(a) **Heredity**:

Heredity is a foundational factor and the innate endowment for health given by one’s parents. It plays an important role in determining the uniqueness of each individual and his particular health status. The physical and mental traits of every human being are to some extent determined by the nature of his genes at the moment of conception. The genetic make-up is unique as it cannot be altered after conception.
(b) Environment:

It was Hippocrates who first related disease to environment, e.g., climate, water, air, etc. Centuries later the association of environment to disease was revived by Pettenkofer in Germany. In modern times the protection of natural environment is considered vitally important for health and effective living.

(c) Ways of Living:

Health is a way of life. It is related deeply to life style which includes ways of living, personal hygiene, habits and behavior. These life activities are the experiences engaged in by the individual. These experiences determine the way he lives, which to a large extent produce the quality of life and the degree of effective living.

(d) Socio-economic Status:

The health of a community is integrally related to its economic status, and its social and political organization. The world today is divided into rich and poor, developed and undeveloped, haves and have-nots. There is little doubt that in many developed countries, it is the economic progress that has been a major factor in reducing morbidity, increasing life expectancy and improving the quality of life.

(e) Health Services:

Health services include all those personal and community services, including medical care, which are directed towards the protection and promotion of health of the community. They range from preventive to curative measures, including health guidance, periodical health examinations, recording of health histories, and clinical, surgical and hospital care.

Health Behaviour:

There is little doubt that the way we lead our lives, directly and indirectly, affects our health. Recognition of the influence of individual
behavior on health goes back at least to Hippocrates. In the twentieth century, research in the behavioral science has shown that it contributes strongly to our understanding of physical health and illness (Roden and Salovey, 1989). Health psychology is now defined as that field which studies the psychological processes affecting the development, prevention and treatment of physical illness (Glass, 1989; Taylor, 1985). The following findings provide significant evidence of the impact of nonphysical factors on health.

1. Certain illnesses are more likely to occur among individuals with specific personality characteristics (Suls & Rittenhouse, 1987).
2. A patient's recovery depends in part on how the physician interacts with him or her (Krantz, Grunberg & Baum, 1985).
3. Socio-economic status obviously affects health as many of the required services are expensive, yet there are more subtle effects too. In the affluent society of the United States today, scientific, technological and economic progress has led to great expansion of individual behavior choices, many of which can affect health (Anne Ramsay Somers and Victoria D. Weisfeld).

**Models Of Health Behavior**

Kasl & Cobb (1966) make a distinction between three different types of "health behavior". These are briefly described below.

(a) **Health Behavior**:

It may be defined as an activity undertaken by a person believing himself to be healthy for the purpose of preventing disease or detecting it in an asymptomatic stage. In other words, it refers to patterns of response relating to health when the person has no specific symptoms.

(b) **Illness Behavior**:

It relates to any activity undertaken by a person who feels ill, to define the state of his health and to discover a suitable remedy. The term illness
behavior describes the ways in which persons respond to abnormal bodily indications. Illness behavior thus involves the manner in which people monitor their bodies, define and interpret their symptoms, take some remedial actions, and utilise the health care system.

(c) **Sick-role Behavior:**

It covers all activities undertaken for the purpose of getting well by those who consider themselves ill. It includes receiving treatment from appropriate physicians, generally involves a whole range of dependent behaviors and leads to some degree of neglect of one’s usual duties.

**Health Belief Model:**

This was developed by four psychologists—Hochbaum, Kegeles, Leventhal and Rosenstock (Rosenstock, 1974) to predict individuals’ preventive health behavior. It was subsequently modified by Becker and Maiman (1975) to incorporate sick-role behavior and compliance with medical regimens. Readiness to take action and engage in health related behaviors depends on a number of factors. The first two are concerned with the extent to which individuals feel vulnerable to a particular illness. This involves whether they feel susceptible to contracting the illness and their thoughts about how severe it is. Besides, susceptibility, severity and vulnerability other factors involved in the model are benefits (potential to be gained from a particular course of action), barriers (degree of physical, psychological or financial distress associated with any form of action) and cues to action (stimuli that trigger appropriate health behavior).

Health Belief Model can be a useful guide to health behavior under certain circumstances (Rosenstock, 1974; Rosenstock and Kirsch, 1979), but there are a number of criticisms. Firstly, the reformulations by Becker and Maiman (1975) make the theory unnecessarily unwieldy with 11 “readiness” factors and 23 enabling factors. This clearly constitutes more variables than can
be included in any one study (Wallston & Wallston, 1984). Secondly, the model treats people as rational decision makers. Janis (1984) says, "The important point is that the health belief model, like other models of rational choice, fails to specify under what conditions people will give priority to avoiding subjective discomfort at the cost of endangering their lives, and under what conditions they will make a more rational decision". Finally, Wallston and Wallston (1984) think that combining the health belief predictors interactively may prove more fruitful than simply adding them together.

Given the limitations of current knowledge, it remains more productive to attempt to change health behavior by focusing on specific problems such as smoking rather than on a more diffuse approach.

**Locus Of Control Model:**

Rotter (1954) proposed that behavior was a function of the individual's belief that the behavior will lead to a reinforcement (expectancy) and how much that reinforcement is liked (reinforcement value). The most important factor in determining generalized expectancies is locus of control. To measure these generalized expectancies, almost a dozen different locus of control measures have been developed (Lefcourt, 1982), but the test that Rotter devised is known as the I-E Scale.

We have an external locus of control if we believe that we are not masters of our own fate and are subject to the control of outside forces, such as luck or destiny. However, we have an internal locus of control if we believe that we have the ability to influence and determine the features that affect our lives. If we have an external locus of control, we are less likely to engage in behaviors that could have a positive effect on our health or lives. Believing that it does not matter what we do, fate has already decided for us. But if on the other hand, we have an internal locus of control, then we are much more likely
to do things for ourselves, because we believe that we can have a significant say in how our life is run.

An increasing number of health researchers have measured locus of control beliefs and have attempted to relate these expectancies to a host of health related behaviors (Oberle, 1991). Some of these studies used a scale where there was no mention of health factors (Lavenson, 1973); others have incorporated specific health items into their scale (Wallston and Wallston, 1984). Some studies have found that a person is most likely to engage in health behavior if he has a belief in internal health locus of control and a high valuing of health; others have found the opposite to be true.

**Health Locus of Control:**

Health is one of many areas in which there has been a significant amount of interest in relating locus of control (LOC) beliefs to a variety of relevant behaviors (Strickland 1978, Wallston and Wallston, 1978; Cromwell, Bullerfield, Brayfield and Curry, 1977). Using their own scales, Dabbs and Krischt (1971) found that college students with internality were more likely to be inoculated against influenza than those with externality.

Wallston and Wallston (1973) observed locus of control orientation as an individual difference variable that could be related to information exchanges between patients and health care professionals. They conceptualized the intent of many health education efforts as internality training programmes, by means of health related measures of locus of control beliefs. They referred to Rotter's writings (Rotter 1960, 1966, in which he advocated taking the situation into account) when they devised measures of expectancy for their rationale in developing a health specific measure.

This concept has frequently been applied to health behavior, using a special measure known as Health Locus of Control (Lau, 1988). Those who strongly believe that internal factors control their health tend to seek more health related information, remember the informations better, and respond
more readily to messages encouraging medical examination than do those who believe in external control (Quadrel & Lau, 1989). This attitude gives them the feeling that they can make decisions and take effective action to produce desirable outcomes and avoid undesirable ones. (Rodin, 1986). Several studies have found that people who have a strong sense of personal control report experiencing less strain from stressors (Elliot, Trief & Stein, 1986; Matheny & Cupp, 1983; McFarlane, Norman, Streiner & Roy, 1983; Suls & Mullen, 1981).

Wallston, Maides, Wallston (1976) reported three important uses of health locus of control —

(a) as an independent variable to predict health behavior, either alone or in combination with other relevant belief and attitude variable (Wallston, Wallston, Kaplan and Maides, 1976; Krantz, Baum and Wideman, 1980; Toner and Manuck, 1979; Sproles, 1977).

(b) as an independent variable, in combination with different treatment conditions, such that treatment outcome may vary with locus of control beliefs (Saltzer, 1978; Key, 1975; Wallston and Mcleod, 1979); and

(c) as dependent variable to measure treatment outcome (Wallston and Wallston, 1973; Bloom, 1979; Tolor, 1978; Dishman et al., 1980).

**Conflict Theory Model:**

This is a model of personal decision making that attempts to specify the conditions under which individuals will give priority to avoiding subjective discomfort at the cost of endangering their lives, and under what conditions they will make a more rational decision by seeking out and taking into consideration the available medical information about the real consequences of alternative courses of action in order to maximize their chances of survival (Janis, 1984). Janis and Mann (1977) have suggested five different patterns of
coping with realistic threats and five stages that individuals go through in order to arrive at a stable decision. These five coping patterns of the decision are as follows:

1. **Unconflicted Persistence**: Ignoring the information about risks and the person continuing to behave in a complacent fashion.

2. **Uncomplicated Change**: Accepting without question and adopting whatever course of action is recommended.

3. **Defensive Avoidance**: Evading the issue by putting things off, shifting the responsibility to someone else or selectively attending to the sorts of information one wants.

4. **Hypervigilance**: Due to a feeling of impending doom the person becomes so panicky that he jumps at the first solution that appears to provide the answer, without considering the other courses of action.

5. **Vigilance**: The individual carefully considers all the courses of action in an unbiased manner before taking a decision for good reason.

**Self-Efficacy**:

Self-efficacy can be defined as the extent of an individual’s competence to face the challenges in life. Obviously, it differs from person to person. Self-efficacy forms part of Bandura’s social cognitive theory (Bandura, 1986) which postulates that behavior is learned through modelling, visualizing, self-monitoring and skill training. Behavior is determined by expectancies and incentives.

**Hardiness**:

According to researchers Suzanne Kobasa and Salvatore Maddi, individual differences in personal control provide only part of the reason why some people who are under stress get sick whereas others do not. They have proposed that a broader array of personality characteristics—called
Hardiness—differences people who do and do not get sick under stress (Kobasa, 1979, 1986; Kobasa and Madd, 1977). Hardiness includes three characteristics:

1. **Control**: It refers to people’s belief that they can influence events in their lives, that is, a sense of personal control.

2. **Commitment**: It is people’s sense of purpose or involvement in the events, activities, and people in their lives. For instance, people with a strong sense of commitment tend to look forward to starting each day’s projects and enjoy getting close to people.

3. **Challenge**: It refers to the tendency to view changes as incentives or opportunities for growth rather than threats to security.

The models and theories of health behavior discussed above represent a significant step forward in understanding why people do and do not seek health care. They have also been applied to a variety of health topics ranging from safe sex to brushing and flossing teeth.

Although much valuable research has been done in the sphere of health behavior, it seems there is still enough scope for further research before we are able to predict the circumstances under which people will, or will not, engage in health behavior.

In the backdrop of above theories and models the present research was undertaken to study health maintenance behavior in relation to certain personality and demographic variables. More specifically, the present research investigates the influence of health locus of control (i.e., internal and external), hardiness (i.e., hardy and non-hardy), age (i.e., young and old) and sex (i.e., male and female) on health maintenance behavior. The findings of the present study provide us useful information about health maintenance behavior and its relation with certain personality and demographic variables, i.e., whether externally oriented and internally oriented subjects, hardy and non-hardy.
subjects, young and old subjects, and male and female subjects differ with respect to health maintenance behavior.

The main objectives of the study were: (1) to investigate relationship between health maintenance behavior and health locus of control, i.e., to what extent externally oriented subjects and internally oriented subjects differ with respect to health maintenance behavior; (2) to investigate relationship between health maintenance behavior and hardiness, i.e., to what extent hardy and non-hardy subjects differ with respect to health maintenance behavior; (3) to investigate relationship between health maintenance behavior and age, i.e., to what extent young and old subjects differ with respect to health maintenance behavior; (4) to investigate relationship between health maintenance behavior and sex, i.e., to what extent male and female subjects differ with respect to health maintenance behavior; and (5) to study the interactional effects between two or more than two variables on health maintenance behavior.

To be more specific, the study was designed to answer the following questions:
1) Do externally oriented and internally oriented subjects differ with respect to health maintenance behavior?
2) Do hardy and non-hardy subjects differ with respect to health maintenance behavior?
3) Do young and old subjects differ with respect to health maintenance behavior?
4) Do male and female subjects differ with respect to health maintenance behavior?
5) Is there an interactional effect of health locus of control and hardiness on health maintenance behavior?
6) Is there an interactional effect of health locus of control and age on health maintenance behavior?
7) Is there an interactional effect of health locus of control and sex on health maintenance behavior?
8) Is there an interactional effect of hardiness and age on health maintenance behavior?
9) Is there an interactional effect of hardiness and sex on health maintenance behavior?
10) Is there an interactional effect of age and sex on health maintenance behavior?
11) Is there an interactional effect of health locus of control, hardiness and age on health maintenance behavior?
12) Is there an interactional effect of health locus of control, hardiness and sex on health maintenance behavior?
13) Is there an interactional effect of health locus of control, age and sex on health maintenance behavior?
14) Is there an interactional effect of hardiness, age and sex on health maintenance behavior?
15) Is there an interactional effect among health locus of control, hardiness, age and sex on health maintenance behavior?

A 2 x 2 x 2 x 2 factorial design in which two personality variables (health locus of control and hardiness) and two demographic variables (age and sex), each varying in two ways, was used in the present study. The two values of one personality variable, i.e., health locus of control, were (a) internally oriented and (b) externally oriented; the two values of another personality variable, i.e., hardiness, were (a) hardy and (b) non-hardy. The two values of first demographic variable, i.e., age, were (a) young and (b) old subjects and the two values of second demographic variable, i.e., sex were (a) male and (b) female subjects. Thus there were sixteen groups and each group consisted of 40 subjects.
In order to form the above mentioned sixteen groups of subjects, Health Locus of Control scale was administered on 800 subjects, half of them were male and the other half female. These were drawn from the graduate and post-graduate students (young subjects) and from retired doctors, engineers and service men of Aligarh Muslim University, Aligarh (old subjects). The scores of each subject were calculated and on the basis of median value, two groups, namely internally oriented and externally oriented, were formed.

Each group was then sub-divided on the basis of age (i.e., young and old) to form four groups, namely, internally oriented young, internally oriented old, externally oriented young and externally oriented old subjects.

Each group then was subdivided on the basis of sex (i.e., male and female) into two groups to form eight groups of subjects, namely internally oriented young males, internally oriented young females, internally oriented old males, internally oriented old females, externally oriented young males, externally oriented young females, externally oriented old male and externally oriented old female subjects.

Hardiness Scale developed by Kobasa and Maddi (1982) was administered on these eight groups of subjects. On the basis of their scores on hardiness scale, each group was further divided into two groups to form sixteen groups of subjects as mentioned above.

The following tools were used in the present study:

1. **Health Locus of Control Scale:**

   The original health-related locus of control scale (HLC Scale) (Wallston, Wallston, Kaplan, & Maides, 1976) consisted of 11 items in a 6-point Likert format. Individuals with scores above median were labelled as “health externals”, and individuals with scores below median were labelled as “health internals”. Internally worded items are 1, 2, 8, 10, and 11. Externally worded item are 3, 4, 5, 6, 7 and 9. There are six response categories in front of each statement of the scale: Strongly disagree, moderately disagree, slightly
disagree; slightly agree, moderately agree, and strongly agree. The scale is scored in the external direction, with each item being scored from 1 (strongly disagree) to 6 (strongly agree) for the externally worded items and in the reverse order for the internally worded items.

2. **Hardiness Scale**

The short version of Hardiness Scale (HS) developed by Kobasa and Maddi (1982) was used to measure the tendency of hardiness among caregivers. The Scale comprised 36 items and it measures three components (i.e., commitment, control and challenge). The responses of the subjects on the hardiness scale were collected on a four-point scale ranging from “not at all” to “completely true”. The response categories were assigned codes 1, 2, 3, 4 respectively.

3. **Health Care Scale**

Health Care Scale, developed by Adhami and Kureshi, (1992), consists of a list of 30 items; 15 being representative of health consciousness and 15 of health carelessness. Each item has five response categories ranging from “strongly agree” to “strongly disagree” with intermediate columns as ‘moderately agree’, ‘can’t say’ and ‘moderately disagree’. The listed items were placed in random order to avoid any guessing on the part of subjects.

The scoring of the items was done as follows.

The items which were representative of health consciousness would get a score of ‘5’ if answered “Strongly Agree” and ‘1’ if answered “Strongly Disagree”; other intermediate responses would get scores accordingly. The items reflecting attitude of carelessness towards health would be scored in reverse order, i.e., “Strongly Disagree” would get the score of ‘5’ and “Strongly Agree” a score of ‘1’. The maximum score that an individual can get on this questionnaire is 150 and the minimum 30.

Health Care Scale was administered on all the sixteen groups of subjects. There were 40 subjects in each group.
As soon as the subjects finished their task the test was collected from them and scoring was done.

The data, thus, obtained were tabulated group-wise and were statistically analysed to draw necessary inferences.

The main findings of the present research are: (1) Health internally oriented and health externally oriented subjects do not differ with respect to health maintenance behavior. (2) Hardy and non-hardy subjects do not differ with respect to health maintenance behavior. (3) Young and old subjects do not differ with respect to health maintenance behavior. (4) Male subjects are found more conscious about their health than female subjects. (5) There is no interactional effect of health locus of control and hardiness on health maintenance behavior. (6) There is no interactional effect of health locus of control and age on health maintenance behavior. (7) There is no interactional effect of health locus of control and sex on health maintenance behavior. (8) There is no interactional effect of hardiness and age on health maintenance behavior. (9) There is no interactional effect of hardiness and sex on health maintenance behavior. (10) There is no interactional effect of age and sex on health maintenance behavior. (11) There is an interactional effect of health locus of control, hardiness and age on health maintenance behavior. (12) There is an interactional effect of health locus of control, hardiness and sex on health maintenance behavior. (13) There is an interactional effect of health locus of control, age and sex on health maintenance behavior. (14) There is an interactional effect of hardiness, age and sex on health maintenance behavior. (15) An interactional effect exists among health locus of control, hardiness, age and sex on health maintenance behavior.

The first finding of the present study, i.e., health internally oriented subjects and health externally oriented subjects do not differ with respect to health maintenance behavior, is not only unexpected but is also contrary to the findings obtained by numerous researchers. Thus a large number of researchers
have reported that those who strongly believe that internal factors control their health can seek more health related information, remember the information better and respond more readily to messages encouraging medical examinations than do those who believe in external control (Seeman and Seeman, 1983; Quadrel and Lau, 1989). Other researchers such as Peterson, Seligman and Vaillant (1988) and Scheier et al. (1989) have found that pessimistic individuals die at an earlier age than those who are optimistic.

The finding of the present study may be explained in the light of the due point expressed by Burger, McWard, and Latorre (1989) who pointed out that though control is valued by most people, there are times when it is freely given up and that "behavioral control" may be surrendered in order to maintain "perceived control" over one's well-being. Thus it is highly reasonable to assume that the sample of subjects used in the present investigation might have surrendered their behavioral control in order to maintain perceived control. This mechanism may be responsible for the absence of any difference between internally oriented and externally oriented subjects with respect to health maintenance behavior.

The absence of any difference between internally oriented and externally oriented subjects with respect to health maintenance behavior might also be due to the fact that we have used Health Locus of Control Scale developed by Wallston, Wallston, Kaplan and Maides (1976), which categorises the individuals into two categories: (1) internal health locus of control and (2) external health locus of control whereas the majority of researchers have used Multi-Dimensional Health Locus of Control Scale, developed by Wallston, Wallston and Devellis (1978) which divides the individuals into three types: (1) internal health locus of control, (2) powerful others' locus of control and (3) chance locus of control. A simple glance over these three types of individuals reveals that there is not a marked difference between powerful others' health
locus of control and chance locus of control and these two types are similar to external health locus of control used in the present study.

The final explanation for the first finding of our research is that health locus of control is just one of many factors that influence the practice of healthful behavior. The belief in internal control appears to have a greater impact on the behavior of people who place a high value on their health than on that of those who do not. (Lau, Hartman and Ware, 1986; Costa, Jessar and Donovan, 1989)

The second finding of our research, i.e., hardy and non-hardy subjects do not differ with respect to health maintenance behavior, does not provide empirical support to the assumption made by Kobasa (1979) and, therefore, is not in consonance with the findings obtained by numerous investigators. However, the finding of the present study provides empirical support to the observations made by Hull, Van Treuren and Vimelli (1987) and Funk (1992), who have argued that the test used in assessing hardiness may simply be measuring negative affect, such as the tendency to be anxious, depressed, or hostile.

Harris and Guten, 1979; Langlie, 1977; Mechanic, 1979 found that (1) individuals who practise certain behaviors that benefit their health do not necessarily practise other healthful behaviors; (2) do not continue to perform these behaviors over time; and (3) though health habits are fairly stable, they often change over time. On the basis of these observations and findings, it is highly reasonable to assume that hardy and non-hardy subjects may differ with respect to health protective behavior but may not necessarily differ with respect to health maintenance behavior.

The third finding of the present research, i.e., young and old subjects do not differ with respect to health maintenance behavior, appears contrary to the findings obtained by many researchers. Belloc and Breslow (1972) and Leventhal, Prohaska and Hirschman (1985), for instance, have found that older
people are more likely than younger ones to engage in various health behaviors, such as eating healthful diets and getting medical checkups. Though we have not obtained a significant difference between old and young subjects with regard to health maintenance behavior, yet a trend may be noticed to the effect that older people are more concerned with their health maintenance behavior than younger subjects.

The fourth finding of our research, i.e., males are higher on health maintenance behavior than females, provides empirical support to the assumption made by Johnston, O’ Malley and Bachman (1995) and USBC (1995), that the number of girls who smoked daily exceeded that of boys and that males are more regular in their physical exercise than females.

Turning our attention to other findings of the present research, we find that the first six interactional effects, i.e., interaction between health locus of control and hardiness, health locus of control and age, health locus of control and sex, hardiness and age, hardiness and sex, and age and sex, are statistically insignificant. The remaining five interactional effects, i.e., interaction among health locus of control, hardiness and age; interactional effect among health locus of control, hardiness and sex; health locus of control, age and sex; hardiness, age and sex; and health locus of control, hardiness, age and sex, are statistically significant.

The first insignificant interactional effect of health locus of control and hardiness suggests that the health maintenance scores of internally oriented/externally oriented subjects are independent of their levels of hardiness. Like the first insignificant interactional effect, the remaining insignificant interactional effects may also be explained.

So far as significant interactional effect of health locus of control, hardiness and age is concerned, it suggests that the health maintenance behavior scores of internally oriented and externally oriented subjects are not independent of their levels of hardiness and age, rather health maintenance
scores of the subjects are the product of health locus of control, hardiness and age. In other words, neither health locus of control nor hardiness nor age alone influences the health maintenance behavior. Like the first significant interactional effect, the remaining four significant interactional effects may also be explained.

In the light of the findings of the present investigation it may be assumed that all the subjects, irrespective of their personality and demographic variables, were lying in the same stage and, therefore, no difference was obtained with respect to health maintenance behavior. Further research is, therefore, needed in which subjects should be taken from different stages of intentional behavior change, vary their personality and demographic variables and then explore the impact of these personality and demographic variables on health maintenance behavior. The findings of such a proposed research study may not only resolve the controversies regarding the impact of these variables on health maintenance behavior but may also provide more meaningful results.