

## **Role of Certain Predisposed Factors on Development of Stress in Women**

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### ***Abstract***

*This study examined the role of certain predisposing factors of stress in women. The sample used for the present study consists of 661 women including both working and non-working in Kerala, India. Convenient sampling method was employed to collect data. The variables utilized in the research were Stress (Family stress, Social stress, and Environmental stress), Personality (Time urgency, aggression, and hostility Polyphasic behavior, Inappropriate, and Goal directedness without proper planning), and Hostility (Guilt, Self-criticism, Cynical hostility, Projection hostility, Criticizing others, and Acting out). The tests together with a personal data sheet have been administered to subjects individually. To test the tenability, the present study employed statistical technique like Two-way ANOVA and Post hoc Scheffe' test. The findings of the study revealed that Type A women experience high family stress, social stress, and overall stress. The findings also revealed that high hostile women experience higher stress than low hostile women. It is also noted that Type A high hostile women experience high social stress and overall stress. In the light of the above it can be stated that personality pattern of women and their level of hostility is playing a major role on development of stress in women.*

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**Key words:** *Predisposed factors, stress, personality, hostility, Polyphasic behavior, cynical hostility, projection hostility*

## **1. Introduction**

In recent years, the attention given to stress research has been rapidly increasing. The literature on stress and women found that there are number factors that create stress in women. Among these factors many of the previous researchers noticed the influence of certain personality patterns and hostility has a significant effect in the onset of stress.

The origin of much of one's stress may lie within one's concept of oneself. Psychologists have been pointing to the individuals self concept as perhaps the single most influential factor in determining behavior. Self perception or self concept refers to the image that one holds of oneself. Just as self perception affects task behavior it can generally affect the stress response and the eventual course of disease. Lazarus (1966) theorized that the greater degree to which persons perceive them in control of a situation, less severe their stress reaction. This suggests that feeling helpless and feeling lack of sufficient power to change one's environment may be a fundamental cause of distress.

Both general level of adjustment and specific personality characteristics are found to influence the stress response. In an attempt to identify more specific proactive personality characteristics, Kobasa (1979) suggested that some people have hardy personalities with three central characteristics such as commitment, control, and challenge. Such a person is firmly committed to the accomplishment of goals and solution of problems, is largely in control of his/her life, and enjoys the challenges presented by change and by problems requiring action. Shejwal (1984) conducted a two-fold study to establish the stressful life events, and to test some of its personality correlates.

The connection between Type A behavior patterns and heart disease was first noted by the famous cardiologists Friedman and Rosenman (1974). They proposed that the solution lies in the connection between personality and stress. They argued that people who are psychologically prone to stress i.e., Type A personalities will prove more susceptible to disease of the heart. In another investigation, Pestonjee (1999) also noted the relationship between role stress and state-trait anger. He also added that Type-A pattern has a moderating effect to behavioral disposition on development of stress.

Based on some previous studies, many researchers believed that hostility may be important for stress related coronary risk rather than other elements of the Type-A personality (Adams, 2002). Hostility of Type-A's may provoke more arguments and conflicts with others. Subjects, high in hostility, reported more hassles, more negative life events, more marital conflicts and more work related stress than subjects who were lower in hostility (Smith and colleagues, 1981).

Hostility is a broad concept that encompasses traits such as anger (an emotion) and cynicism and mistrust (attitudes). It is also important to note the difference between the

experience of hostility, a subjective process including angry feelings or cynical thoughts and the expression of hostility, a more observable component which includes acts of verbal or physical aggression. Siegman (1994), in his study, analyzed the different factors of hostility. He reported that hostility has different dimensions such as cognitive, affective, and behavioral components. Negative feelings about others related to cognitive components and anger, disgust or contempt are related to affective components. He also argued that behavioral manifestation of hostility can be in the form of overt aggression and it is more common in women also. Miller et al., (1996) also noticed that predominant hostile nature of women faces experience high level of stress and that may lead to cardio vascular problems in women. Burns et al., (1993) examined the moderating effect of hostility on cardiovascular reactivity. He also informed that hostility is related to different levels of stress and that affect cardiovascular reactivity and later that leads to coronary heart disease (CHD).

According to Burns, women who are often angry and hostile are at risk for high blood pressure, and high cholesterol due to release of stress hormones into their blood. So they have high risk to have CHD and that increases their mortality rate than women with low hostility.

But when we come to the Indian scenario; the problem of stress is an important aspect of the process of social change in India. Attempts have also made in India to trace the particular stressors that are dominant among women whether they are working or non-working. Surti (1982) studied the psychological correlates of role stress in working women belonging to various professional groups. An attempt was made to determine the extent to which demographic, personality, and organizational factors contributed to various role stresses.

But the Kerala context poses a paradoxical situation as far as women are concerned. Being a state of complete literacy, pressures toward higher education and job orientation of women is very strong here, especially in the urban, middle class families. On the other side, Kerala faces severe problems of unemployment as well. Avenues are open only for the highly qualified and competitive ones, or for those who are backed up by economic and political powers. As a result, many are forced to remain unemployed or to accept a low status occupation far below their educational qualification. This may pose a threat to their level involvement and security with regard to matters pertaining to job. So, sometimes many working women are also forced to give a comparatively low priority to career, and to continue to attach primacy to their domestic roles due to family and social pressures.

In previous years the dominant focus for stress research has been the investigation of stressors in the workplace and their influence on employee perceptions, attitude, and behaviors. The present research focused mainly on the sources of stress from non-work areas and Type A personality pattern and hostility on experience of stress. Review of previous investigation in this area reveals that several studies have been done in other parts of the

world on certain stress variables and associated issues. But no studies on women in Kerala culture, which is different from the western culture, have been found reported so far. Therefore, a study to examine the influence of Type A personality and hostility on level of stress of Kerala women may yield some novelty. At this juncture it is hoped that the findings of the study would help the stress researchers to understand the development of stress in terms of personality and hostility in women with an eastern perspective.

## **2. Literature Review**

The review materials collected is presented herein under categories which are as follows:

### **2.1 Personality and Stress**

A personality characteristic that appears to be important in influencing the health consequences of stress has been termed the Type-A personality (Lahey, 2007). However further research on the link between Type-A behavior and coronary heart disease indicates that the association is not as strong as Friedman and Rosenman believed (Williams, 1983). Why is Type A behavior associated with increased risk of coronary disease? Type A behavior appears to be indirectly linked to heart disease through two major factors: high blood pressure and cholesterol (Mathews, 1988; Weiner, 1987). One theory suggests that this is because Type A individuals react physiologically more to stress than other individuals do. Williams & others (1982) from Duke University Medical Centre assigned a competitive task for Type A Type B students. The result of the study revealed that Type A individuals were found with greater increase in stress hormones in their blood stream, and those individuals responded to stress with greater increase in blood pressure as well. Similarly, Type A individuals also have been shown to respond to stress with greater increase in blood pressure-another key risk factor for coronary disease (Haynes, Feinleib, & Kannel, 1980; Mathews 1982; Williams & others, 1982). In another study by Folkman & Moskowitz (2000), it was noted that differences among individuals in their characteristic emotions and personalities prior to stress influence their reactions to stress. A recent correlation analysis from Gordon, et. al. (2011) found that perfectionism was marginally related to Type A behavior, and it is also found out the relationship between Type A patterns and the level of distress. Kawai, et.al. (1999) also revealed that there was a direct relationship between Type A personality and stress. They conducted the experiment to find out the association of the Type A pattern with reactivity of secretory immune functioning to brief stress. In a study from Al-Mashaan (2001), he conducted the study in a group of Kuwaiti employees (both men and women), and it was reported that there is a positive relationship between Type A behavior and job stress.

Sarhan (1986) reported that social support and personality hardiness, have been consistently found to moderate the negative effect of stress in professional men, but the effectiveness of these factors for professional women has not yet been sources of social

support (family, friends and work associates) and stress level on psychological symptomatology among professional women. Kobasa (1979) was among the first to show that personality, especially a trait called “hardiness”, affords those who have it a psychological shield against adverse effects of stress on physical and mental health. Chan (1977) proposed that some consistent personality and attitudinal constructs are influential in stress. They may include anxiety, a potent sense of hope and efficacy, self-esteem, learned helplessness, and locus of control. These factors are actually the end products of a long socialization process characterized by person-environment interaction.

Welsh and Booth (1977, cited in Kobasa, 1979) are also of the opinion that although it appears to be significant in interaction with other variables, including family size, occupational experiences, and Type A patterns of behavior.

## **2.2 Hostility and Stress**

Maria (2003) examined the role of the suffrage news-seller in light of the important role official organizations came to play for organizations within the movement and competing claims that act of selling placed on women unaccustomed to venturing into the street on facing public hostility. Geir, & Arne (1999) investigated the presence of negative emotions and Type A behavior in a group of 40 yrs. old men and women. The study reported that there was a correlation between hostility and total cholesterol is negative as is that between systolic blood pressures, and the feeling of guilt in women.

Barlett et.al (2014) applied the general aggression model (GAM) to explain the relation between negative societal changes on aggression related out come. The study found positive relations between stress from negative societal changes and aggression, mediated by hostility. In this experiment they assigned subject to view stressful news videos or neutral news videos prior to completing state measures of stress and hostility. The result showed that viewing stressful videos increased state hostility, which was mediated by state levels of stress. Sprague and associates (2011), conducted a study examined the effects of executive function (i.e., EF) and anger/hostility on the relationship between stress (across individual stress domains, as well as at the aggregate level) and aggression. Two independent groups of participants—a college sample and a low-income community sample—were administered a battery of self-report measures concerning the subjective experience of stress, aggressive behaviors, and feelings of state anger and hostility in the last month, along with a battery of well-validated neuropsychological tests of EF. The findings of the studies revealed the importance of higher order cognitive processes in regulating appropriate affective and behavioral responses across different types of individuals, particularly among those experiencing high levels of stress.

A meta-analysis by Orth (2006) revealed the effect of anger, and hostility on development of posttraumatic stress disorders. Heponiemi and associates (2006) examined the moderating effect of employee hostility on resident related stress. The hostile employees reported increased resident-related stress irrespective of the proportion of depressed residents in the unit. Whereas, the non-hostile employees reported that they experienced low levels of stress. A research from John (1995) reported about the emotions, especially anger and hostility, may play a major role in people's predisposition to emotional stress and minor illness, as well as their ability to fend off or recover from serious illness. Other studies also linked emotional stress, and anger and hostility to high blood pressure and heart disease.

### **2.3 Personality, Hostility, and Stress**

An experiment was conducted by Victor (1998) to investigate the relationship among Type A behavior and cardio vascular reactivity (CVR) in women. Analyses indicated that Type A and high hostile women were more reaction to stressors than Type B and low hostile women. A variation of systolic and diastolic blood pressures also found in those groups. The study was concluded that Type A personality and hostility can predict greater reactivity in women to stress. Irene (1991) examined the characteristics of Type A personality and its relationship to perceived stress among a group of students from three major ethnic groups in Singapore. There is a positive correlation between stress and Type A personality were found out in that study. It is also suggested that Type A persons are hostile and that this hostile behavior is prone to stress. The 17 Indians had more hostility trait than the 12 Malayas, and the 261 Chinese.

### **3. Methodology**

Methodology is universally significant step in any research work because the truthfulness and validity of information that is secured in the study depends largely upon the fruitfulness of its methodology. Keeping these entire in mind every possible attempt is made to make the present methodology a sound one.

#### **3.1 Research Questions**

As it is evident from the introduction and the review the purpose of the study is to find out the predisposing factors on development of stress. Hence the following two research questions are framed for the present study. (1). "What are the major predisposing factors on development of stress in women?" (2). what are the nature and role of personality and hostility on development of stress?

#### **3.2 Hypotheses**

The following hypotheses formulated for the present study

- a. There will be a significant difference between the classificatory factors: personality (Type A/Type B) and hostility (high/low), on stress.

- b. There will be a significant difference between Type A and Type B women on hostility
- c. There will be a significant difference between Type A high hostile women and Type B high hostile women on overall stress.

### **3.3 Research Model**

In the present study, the investigators followed the Psychodynamic approach. This approach considers events (both external and internal) which pose threat to integrity of the organism leading to the disorganization of personality as stress. Stress may be induced by interpersonal (external) or intra-psychic (between on impulses and ego) factors resulting in anxiety and stress (Pestonjee, 1999).

### **3.4 Data**

Stratified random sampling procedure is used for the present investigation. The sample consists of 661 women belonging to both working and non-working category. It may be noted that the subjects in the sample were selected from different regions of Kerala (A southern state in India), taking into consideration of their demographic status, personality pattern, level of hostility, and level of stress. These aspects are briefly described below:

- (i) *Personality*: The sample was divided into Type A (N=351) and Type B (N=310) personalities based on the subjects' overall scores in the personality scale in accordance with the norms of the scale.
- (ii) *Hostility*: The total samples have been divided into two hostility group (low/high) based on the median scores of overall hostility. Low hostility group consist of 335 individuals and the high hostility group consists of 326 individuals.
- (iii) *Stress*: For the comparisons the data have been classified into three levels such as low (N=129), average (N=381), and high (N=151) based on  $\sigma \pm 1$  from the average overall stress scores.

### **3.5 Measures**

The main measures selected for the present study are S.S. Inventory, Type A Behavioral pattern Scale, and Multiphasic Hostility Inventory. Detailed descriptions of the tools are given below.

- (a) *S.S. (Shibu Stress) Inventory*: The S.S. Inventory (SSI) was constructed by the present investigator in 1992. The inventory is prepared and standardized in order to measure the level of stress in individuals. The sub scales or variables selected for the SSI are: Family stress, Social stress, and Environmental stress. The SSI contains thirty items (10 items in each of the subscale) capable of eliciting stress with regard to above mentioned areas. The inventory is found to be high reliability (+ 0.89) using Spearman-Brown correlation formula (N=50). An examination of the items shows that the different scale of the tests possesses face validity and content validity.

- (b) *Type A Behavior Pattern Scale*: The scale was developed by Robert et al. (1986). The scale consists of 14 items. It gives a sealing of Type A personality and also the pattern of scores of individual characteristics contributing to the Type A Score. The measures of individual characteristics of Type A personality pattern obtained are time urgency, inappropriate aggression and hostility, competitiveness, polyphasic behavior, and goal directedness.
- (c) *Multiphasic Hostility Inventory*: Hostility is multi dimensional construct, which includes affective, cognitive, and behavioral components. Thoresen and Powell (1992) and Steinberg and Jorgensen (1996) pointed out the multidimensional nature of hostility and the need for the development of multi-model measures for hostility. On the basis of these views the present inventory is constructed by Jayan and Babyshari (2005). The inventory is highly reliable and valid to measure different dimensions of hostility. This inventory consists of 45 items under various heads such as guilt, self-criticism, cynical hostility, projection hostility, criticizing others, and acting out.

### **3.6 Procedure**

In the present study different psychological measures are used for the measurement of the different variables. All the tools are tagged together and administered to the subjects individually. In addition to the written instructions, the investigator had given oral instructions to the subjects for responding each item appropriately. Then the collected data were checked for complete responses, which were excluded from the data set. The responses, which were complete every sense, were scored according to the norms and guidelines of each scales. After scoring the data were grouped into SPSS package for data analysis. Analysis of Variance (ANOVA) and Post hoc Scheffe' test were used for statistical analysis.

### **4. Results and Discussion**

In order to examine the role of certain predisposed factors, the data is classified into different categories and the significance of difference in the stress scores of subjects in the different categories are tested with Two-way ANOVA.

The details of the results of two-way ANOVA performed on the scores obtained by the subjects in different scales used in this study are given below. Since personality pattern has found to influence the scores, it is decided to consider two types of personality (Type A & Type B) separately for all the analysis carried out here. Thus personality formed one of the factors in the two-way ANOVA. Hostility is considered the second factor in this analysis. The following results describe the nature and role of personality and hostility on development of stress.



Table 1: Summary of Two-way ANOVA  
(Personality pattern x Hostility): Results for Stress and Its variables

Variables	Residuals		Main Effects						Interactions		
	Sum of squares	Mean Squares	Personality Pattern			Overall Hostility			Sum of squares	Mean Squares	F
			Sum of squares	Mean Squares	F	Sum of squares	Mean Squares	F			
Family Stress	25409.62	38.68	333.39	333.39	8.62**	137.14	137.14	3.55	96.70	96.70	2.50
Social Stress	31224.86	47.53	175.78	175.78	3.70*	295.68	295.68	6.22*	299.74	299.74	6.31*
Environmental stress	25776.17	39.23	4.22	4.22	0.11	46.30	46.30	1.18	2.58	2.58	0.07
Overall stress	89356.42	136.01	1127.07	1127.07	8.29**	488.46	488.46	3.59	652.39	652.39	4.80*

\*\*p<0.01 \*p<0.05

Table 2: Mean and Standard deviation of personality Type A & Type B pattern on Stress variables

Personality Pattern	Stress Variables			
	Family Stress	Social Stress	Environmental Stress	Overall Stress
Type A	28.26 (6.14)	29.59 (6.81)	31.68 (6.09)	89.53 (12.13)
Type B	26.70 (6.34)	28.36 (7.09)	31.59 (6.43)	86.65 (11.23)

The results presented in Table 1 show that the F ratios obtained when stress scores are analyzed to determine the effects due to personality and overall hostility. Here personality is found to have significant role on the scores in family stress (F= 8.62; p<0.01) and social stress (F= 3.70; p<0.05). From the means (Table 2) it can be noted that Type A women report more stress in family situations (M= 28.26; SD= 6.14) than Type B (M= 26.70; SD= 6.34). In the case of social stress also Type A women found to have more social stress (M= 29.59; SD= 6.81) than Type B women (M= 28.36; SD= 7.09).

Based on the above results it can be stated that Type A women experience more family stress and social stress than Type B. Because of the personality characteristics their involvement in family problems and the responsibility of taking care of others in family are relatively more than Type B women. So they may find themselves to be more stressed up in the family.

Due to their specific components or characteristics, Type A women may highly sensitive to social stressors, and because of these, they may feel more social stress.

In addition to above, in overall stress ( $F= 8.29$ ;  $p<0.01$ ) also Type A women report they are under higher stress ( $M= 89.53$ ;  $SD= 12.13$ ) than Type B women ( $M= 86.65$ ;  $SD= 11.23$ ). The difference may be due to a number of factors such as insatiable desire to achieve one's goals, strong willingness to compete in all situations, strong desire for recognition and achievements, inability to complete different tasks under time constraints, always in a rush to finish activities, above average mental and physical alertness, poor adjustment with family members, friends or co-workers, low capacity for adaptation, and the inability to meet situational requirements. Because of these the Type A women may be experiencing higher level of stress.

Kriston (2005) reports that Type A behavior pattern has been lined to coronary heart disease and myriad of stress related illness and problems. Sherrod (1994, cited by Kelly K.B. 2005) also reported that black Type A women suffer from disproportionate levels of CHD and tend to develop coronary heart disease and stress related illness than Type B black women. Based on a sample of 105 black college women, the findings suggests that Type A behavior pattern (TABP) is significantly related to positive academic adjustment and a negative impact on their emotional well being due to emotional distress (Suls, & Wan, 1989). This trend could be indicative findings by Gallachar et.al (2003) which found that TABP may increase one's exposure to potential triggers of stress and coronary heart disease.

For social stress, a significant difference is obtained on personality pattern ( $F= 3.70$ ;  $p<0.05$ ). From the cell mean (Table 2) it can be noted that subjects belongs to Type A personality report that they experience more social stress than Type B personality ( $M= 29.59$ ;  $SD= 6.81$ ). However no significant difference is noted for family stress as a result of different hostility level.

Table 3: Mean & Standard deviation of Hostility on Stress variables  
 Stress variables

Hostility	Family Stress	Social Stress	Environmental Stress	Overall Stress
Low	26.98 (6.53)	28.28 (7.28)	31.89 (6.67)	87.15 (9.34)
High	28.10 (5.98)	29.77 (6.55)	31.38 (5.79)	89.25 (9.45)

Subjects belongs to high hostility group (Table 3) also report that they experience more social stress than the subjects belongs to low hostility group ( $M= 29.77$ ;  $SD= 6.55$ ).

Based on the above result it can be argued that, high hostile women may perceive stressors from society as threatening rather than challenging. Due to this they may experience more social stress than low hostile group. It is also evident from the result that Type A women are relatively high in overall hostility than Type B women. This may be due to lack of social support they may receive from others of their personality characteristics.

Table 4: Mean & Standard deviation of interactions to Personality and Hostility on Stress variables  
 Stress Variables

Personality	Family Stress		Social Stress		Environmental Stress		Overall Stress	
	Low	High	Low	High	Low	High	Low	High
Hostility								
Type A	27.34 (6.14)	28.98 (5.70)	28.12 (7.13)	30.75 (6.33)	32.04 (6.76)	31.39 (5.52)	87.52 (12.54)	91.13 (11.58)
Type B	26.66 (6.49)	26.75 (6.15)	28.40 (7.43)	28.30 (6.63)	31.76 (6.61)	31.36 (6.61)	86.82 (12.04)	86.41 (10.03)

In the case of personality x hostility interaction is also found yield significant 'F' ( $F = 6.5$ ;  $p < 0.05$ ). From an examination of the group means (Table 4), it can be viewed that subjects with Type A personality belonging to high hostility group ( $M = 30.75$ ;  $SD = 6.33$ ) report that they experience more social stress than other groups.

However in the case of environmental stress, no significant difference is obtained due to either personality difference or hostility. The interaction between personality and hostility is also not found any significant effect on environmental stress.

Again, personality is found to have significant effect on overall or total stress ( $F = 8.29$ ;  $p < 0.01$ ). The subjects belonging to Type A personality are found to report more stress ( $M = 89.53$ ;  $SD = 12.13$ ) than Type B ( $M = 86.65$ ;  $SD = 11.23$ ). While personality pattern x hostility level also found to have a significant difference. The mean scores show that the subjects with Type A personality belonging to high hostility group have a high mean score ( $M = 97.13$ ;  $SD = 11.58$ ) than the other groups.

In the above results it can be said that the women belonging to Type A personality tend to have high hostility and this may lead to develop high level of stress. It can also be argued that because of their personality characteristics they may be prone to have high hostility. This may lead them to experience high level of stress from all spheres of their life.

## 5. Conclusion and Recommendations

In recent years, the attention given to stress research has been rapidly increasing. The present study aimed to investigate the role of personality and hostility on development of stress in women. Review of previous investigation in this area reveals that several studies have been done in other parts of the world on certain stress variables and associated issues. But no studies on women in Kerala culture which is different from the western culture have been found so far. Therefore, a study to examine the level of stress they experience from different spheres of life and different personalities how they reacts especially with hostility is inevitable. To conclude, it can be reminded from the above result,

- (a) Type A women are more hostile than Type B women

- (b) Type A women experience more family stress and social stress than Type B women. Their overall stress level is also relatively high.
- (c) Women with high hostility experiencing high stress than the women with low hostility.
- (d) Personality pattern and level of hostility are playing a significant role on development of stress in women.

At this juncture it is hoped that the findings of the study would stimulate many researchers to find various strategies to manage stress and hostility in women.

## **References**

- Adams, Gary A., et al.,2002., "Type A as a moderator of stressors and job complexity: a comparison of achievement strivings and impatience-irritability." *Journal of Applied Social Psychology* 32.5
- Al-Mashaan, O.S.,2001., Job Stress and Job Satisfaction and their relation to neuroticism, Type A behavior, and locus of control among Kuwaiti personnel. *Psychological Reports* 88.3: 1145.
- Barlett, Christopher P.; Anderson, Craig A. 2014., Bad news, bad times, and violence: The link between economic distress and aggression. *Psychology of violence*, Vol. 4(3), 309-321
- Burns, J., Hutt, J., & Weidner, G.(1993). Effects of Demand and Decisions Latitude on Cardiovascular Reactivity Among Coronary-Prone Women and Men. *Behavioral Medicine*, 19(3), 122-128.
- Chan, K.B.1977., Individual differences in reaction to stress and their personality and situational determinants. *Social Science and Medicine*, 11, 89-109.
- Folkman, S., Moskowitz.J.T., 2000., Positive affect and other side of coping, *Am. Psychol.* Jun, 55(6). 647-54.
- Friedman,M., & Rosenman, R.H., 1993., *Relationship of Type A behavior pattern with coronary heart disease*. In L. Goldberger and Breznitz (Eds.) *Hand Book of Stress: Theoretical and clinical Aspects*. N.Y: Free Press.
- Gallacher JEJ et al.2003., Is Type A behavior really a trigger for coronary heart disease events? *Psychosomatic Medicine*, 65(3):339–346.
- Geir, A.E., & Arne, O., 1999. Associations among behavior, personality, and traditional risk factors for coronary heart disease: A study at primary health care centre in Mid-Norway, *Psychological Reports*, 85.2, p. 505.
- Gordon,L.F., Teresa, P., & Paul, L.H. 2011., Perfectionism, Type A Behavior, and Self-efficacy in Depression and Health Symptoms among Adolescents. *Curr Psychol* 30: 105-116.
- Haynes SG, Levine S, Scotch N, Feinleib M, Kannel WB., 1980., The relationship of psychosocial factors to coronary heart disease in the Framingham study. I. Methods and risk factors. *Am J Epidemiol.*III (1), p. 37-58.

- Heponiemi, Tarja; Elovainio, Marko; Pekkarinen, Laura; Noro, Anja; Finne-Soveri, Harriet; Sinervo, Timo, 2006. The moderating effect of employee hostility on the association of long-term, *Journal of Occupational Health Psychology*, Vol 11(2), 157-168.
- Irene, K.C., 1991., Type A personality and stress among Singapore Chinese, Malays , and Indians. *Personality and Individual Differences*. Vol. 12(7), p. 753-758, Netherlands: Elsevier Science.
- Jayan, C., & Baby Shari, 2005., *Multiphasic Personality Inventory*. Department of Psychology, Calicut University, India.
- John, G., 1995., Your emotions can help you fight cancer, heart disease, and more. *New choices for Retirement Living* Vol. 35, p. 24-27.
- Kawai, M., Kobayashi, K., Ohira, H., & Watanabe, Y. 1999., The Type A behavior pattern and immune reactivity to brief stress: Change of volume of secretory immunoglobulin A in saliva. *Perceptual and Motor Skills*, 89.2, p. 423.
- Kelly, K.B., 2005., Type A Behavior Pattern in Black college women: Implications for academic adjustment and emotional well-being, *PhD Dissertation*, Bosten College 93.
- Kobasa, S., 1979., Stressful life events, personality and health. An enquiry into hardiness *Journal of Personality and Social Psychology*, Vol. 37, p. 1-11.
- Kriston, K.B. 2005., Type A behavior pattern in Black college women: Implications for academic adjustment and emotional well-being, *Dissertation* Boston College US: Massachusetts.
- Lahey, B.B. (2007). *Psychology: An Introduction (9<sup>th</sup> Ed.)*. New York: McGraw-Hill.
- Lazarus, R.S., 1966., *Psychological stress and the coping process*. New York: McGraw Hill.
- Maria, D, 2003, Gutter Politics: Women newsier and the suffrage press *Women's History Review*, V. 123, No.1, p. 15-33
- Matthews, K.A., 1988., Coronary heart disease and Type A behavior: Update on and alternative to the Booth-Kewley and Friedman(1987) quantitative review. *Psychological Bulletin*, 104, 373-380.
- Miller, T.Q., Smith, T.W, Turner, C.W., Guijarro, M.L., & Hallet, A.J. (1996). A meta analytic review of research on hostility and physical health. *Psychological Bulletin*, 119(2), 322-348.
- Orth, Ulrich; Wieland, Elias, 2006. Anger, hostility, and posttraumatic stress disorder in trauma-exposed adults: A meta-analysis. *Journal of Consulting and Clinical Psychology*, Vol 74(4), 698-706.
- Pestonjee, D.M., 1999., *Stress and coping: The Indian Experience (2<sup>nd</sup> Ed.)*, New Delhi: Sage Publications.
- Robert et. al. 1986, Cited in Rajitha Menon (2005), *Psychological Correlates of Mental*

- Health of Sports Persons: An Analytical Study*. Unpublished doctoral thesis, Calicut university. India.
- Sarhan, J.S. 1986, Social support and personality hardiness as mediators of stress in professional women. *Academic Guidance Counseling*, Dissertation, Arizona State University.
- Shejwal, B.R., 1984., *Stressors among college students*. Unpublished manuscript, University of Pune, India.
- Shibu, D., and Dharmangadan, B., 1992, *S.S. Inventory*, Unpublished M.Phil dissertation, Department of Psychology, University of Kerala, India.
- Siegmán, A.W., 1994., In A.W. Siegmán, & T.W. Smith (Eds.), *Anger, Hostility, and the Heart* (pp. 1-22, 173-198). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Smith, T.W., & Brehm, S.S., 1981., Cognitive correlates of the Type A coronary-prone behavior pattern. *Motivation and Emotion*, 3, 215-223.
- Sprague, Jenessa; Verona, Edelyn; Kalkhoff, Will; Kilmer, Ashley, 2011, Moderators and mediators of the stress-aggression relationship: Executive function and state anger. *Emotion*, Vol 11(1), 61-73.
- Steinberg, L., & Jorgensen, R.S., 1996., Assessing the MMPI- based Cook-Medley Hostility Scale: The implication of dimensionality. *Journal of Personality and Social Psychology*, 70, 1281-1287.
- Suls, J., & Wan, C. K. 1989. The relationship between Type A behavior and chronic emotional distress: A meta-analysis. *Journal of Personality and Social Psychology*, 57, 503-512.
- Surti, K., & Sarupria, D., 1982, *Psychological factors affecting women entrepreneurs: Some findings*. Paper presented at the Second International Conference of Women Entrepreneurs, New Delhi.
- Thoresen, C.E., & Powell, L.H., 1992., Type A behavior pattern: New perspectives on theory, assessment, and intervention. *Journal of Consulting and Clinical Psychology*, 60, p. 595-604.
- Victor, L.F. 1998, Stress and personality as factors in women's cardio vascular reactivity. *International Journal of Psychophysiology*, Vol. 28(2), p. 143-155. Netherlands: Elsevier Science.
- Weiner, R. 1987. Another look at an old controversy. *Contemporary Psychiat.*, 1, 61-62.
- Williams, J.H., 1983., *Psychology of Women*. (2<sup>nd</sup> Edn.), New York: W.W. Norton and Company.
- Williams, R.B., Lane, J.D., Kuhn, C.M., Melosh, W., White, A.D. & Schanberg, S.M. 1982. Type A behavior and elevated physiological and neuro-endocrine responses to cognitive tasks. *Science*, 218: 483-485.