The present study aimed at validity of the construct of temperament as given by Buss (EASI). Early Indian and Greek medical scientists, Charak, Sushruta, Hippocrates and Galen, and recently Eysenck (1970) believed that the basic elements were represented in the human body by humours (vatta, pitta and kapha or Blood, black bile, yellow bile, phlegm), which correspond to temperament types e.g. (Sanguine, Melancholic, Choleric, Phlegmatic).

Temperament is the most basic and general characteristic of behaviour. Buss’s theory is gaining popularity in psychology of personality and related behaviour. Buss is the most prolific writer and theorist in the psychology of temperament with a standing of more than four decades. He has been constantly expanding and refining his theory of temperament along with the behaviour genetics scientist Plomin.

Buss and Plomin (1975) developed their concepts on the basis of evolutionary viewpoint of Soloman Diamond (1957) who published his evolutionary approach to temperament. He described four temperaments shown by primates (including our species) and perhaps some social mammals: fearfulness, aggressiveness, affiliativeness and impulsiveness. Buss and Plomin have proposed four temperamental traits – EASI. They have operationalized these traits in terms of questionnaire measure. The present study has validated it by using other objective and physiological measures along with their questionnaire of Eysenck’s EPP.

A single sample correlational factor design was used. On the basis of different researches conducted in this field, a battery of 8 experimental, 3 psychological, 3 psychometric measure and a observation measure was selected. The order of measures was independently randomized for each subject. A total of 200 subjects were tested.

The used measures were as follows:

(1) BP, (2) PR, (3) GSR, (4) Finger tapping as a measure of activity, (5) A multiplication list of ten items – as a measure of control, (6) A single letter
‘B’ - as a measure of discipline, (7) An electric Y-Maze - as a measure of reflection, (8) Aggression Machine - As a measure of aggression, (9) A geometrical figure (図) - as a measure of distress, (10) A word ‘Zdravstvuyitye’ - as a measure of anger, (11) Aversion therapy apparatus - an instrument to induce fear, (12) Buss's EASI measure, (13) EPP's items of, aggression, anxiety, activity, sociability, impulsiveness, (14) Aggression questionnaire, and (15) Observational measure - subjects were made to wait in the pre-experimental room either alone or with other persons by choice - as a measure of sociability.

These 15 measures yielded 49 scores after response scaling. Obtained scores were run for the testing of assumptions for multi-variate analysis. It was found that the shape of the distribution of measures was non-normal, therefore, the monotonic transformation in terms of T-scaling was done.

For the construct validation, the data were subjected to two types of analyses - correlation (convergent and divergent validation) and validation through factor analysis.

Principal component factor analysis was done in order to identify the clustering among variables. Sixteen significant factors (in females) explaining a total of 76.274 variance and 15 significant factor (in males) explaining a total of 72.625 variance were extracted.

In this study, factor analysis revealed that some major factors were found in both the samples; these are blood pressure, pulse rate in varied psychological states and the aggression. Although basic data differed significantly between two sexes, factors seem to be common in terms of grouping of variables.

But t-test indicated that males and females differed significantly on many traits. Males are higher than females on different psychological variables. Males were high on trait anxiety and aggression. Given the situation they too produced greater instrumental aggression as well as more physical activity, they too experienced an associated physiological pattern and even expressed it
instrumentally. Females were significantly higher on psychometric measure of fear and distress, though females were temperamentally emotional being more fearful and distressed. Yet they bore emotionally loaded situation longer as they took more time to be angry and distressed through higher heart rate (Pulse rate).

But in some variables significant sex differences did not emerge. These include mainly psychometric measures of EPP (activity, impulsivity and sociability) and all measures of EASI of Buss and Plomin, except fear and distress, aggression measures of Buss and Perry, experimental measures of impulsivity components (reflection, controlled, disciplined) as well GSR under normal state and experimentally induced states of emotionality.

EASI measure appears to operationalize the construct of temperament with moderate validity. Although its convergent validity turned out to be satisfactory, yet its divergent validity was poor. The factorial validity did not mimic the proposed structure. Even the components of the same trait did not emerge as separate factors. Factors at times exhibited obliqueness or poor independence. Other times too narrow factors were exhibited (Windle, 1989a). Method specific variance emerged as a strong axis resulting into multiplicity of factors, e.g., physiological based factors where behavioural content became irrelevant.

A strong case for unidimensional general quadrant for further verification was suggested in the findings, which could be arousability-activity (Strelau, 1987a). Their content features may be sub component. Further, the findings revealed some sort of typology at upper level, at least. Proposing the structure of temperament is yet premature. Although, Ane (2004) has found satisfactory psychometric properties of EAS and explained covariance between subscales on the basis of latent stability factors and time-specific factors.