The main hypothesis relating the effect of bilingual environment on the dependent variables is based on the assumption of Cummins' threshold hypothesis (1976). The hypothesis assumes that those aspects of bilingualism which might positively influence cognitive growth are unlikely to come into effect until the child has attained a certain minimum threshold level of competence in second language. Similarly, if a bilingual child attains only a very low level of competence in second language, his interaction with the environment through that language, both in terms of output and input is likely to be impoverished. The present study extends the verification of the assumption of threshold hypothesis to personality variables in addition to the cognitive variables in the Indian context. It attempts to investigate the following dimensions:

The effect of threshold level of second language takes into account three levels of language proficiency namely low, average and above average. The low level of second language proficiency in bilingual children implies that the bilingual child has not overcome the initial difficulties with the two languages and its persistence after four years of learning in school as medium of education imparts determining effects that are compared with their counterparts who avail of a single linguistic system with a similar lower level of proficiency. Similarly bilingual children with average and above average proficiency in second language are compared with monolinguals with similar levels of proficiency in their first language. Bilingual children learn through their second language, Tamil, as medium of instruction in school. Monolingual children learn through their first language, Tamil. The comparison would yield isolated information on the effect of the bilingual children.
Based on the above theoretical generalisation and the empirical results the following hypotheses are deduced for verification.

**Hypothesis 1:**

**Bilingualism and Intelligence:**

The relationship between bilingualism and intelligence has attracted the attention of many researchers. Hill (1936) reported insignificant difference between monolingual and bilingual groups on verbal and nonverbal intelligence.

Jones (1952, 1966) found no difference between monolingual and bilingual children in nonverbal intelligence. But in verbal intelligence monolinguals excelled the bilingual children.

Peal and Lambert (1962) reported that balanced, bilingual children possessed a higher level of verbal and nonverbal intelligence in comparison to the monolingual children.

Liedke and Nelson (1966) reported superior performance of bilingual children on concept formation.

Barik and Swain (1976) found that bilingual subjects with higher proficiency in second language scored better than the monolingual children in IQ measures. This finding supported Cummins' contention that attainment of high threshold level of second language is associated with greater cognitive development.

Kakkar (1976) reported that bilingual children were superior in nonverbal intelligence.

Keats, Keats and Rafaei (1976) pretested five year old English-Malay and English-Chinese bilingual children in both languages. They were trained in one language on the conservation of weight and were tested after two months in both languages. Results suggested that language plays a minor part in acquisition of concepts and that the younger children perform better when tested in their native language. The above studies
do not give a clearcut picture on the effect of bilingualism on intelligence. In light of the assumption of Cummins' threshold hypothesis, the following hypothesis is formulated: Levels of second language proficiency and intelligence are interdependent.

Hypothesis 2:

Bilingualism and Creativity:
Landry (1970) found that learning two languages during the elementary school years facilitated creativity.

Torrance, Gowan, Wu and Aliotti (1970) reported that bilingual children perform at a significantly lower level on subtests of creativity namely fluency and flexibility, but the trend was reversed for subtests of originality and elaboration.

Cummins (1975) compared balanced and nonbalanced bilingual group on creativity. He found that verbal divergence is a correlate of the ability to learn a second language in a bilingual programme. Since most of the studies have reported the positive influence of bilingualism on creativity and in line with the Cummins' threshold hypothesis, the following hypothesis is framed: Levels of second language proficiency and creativity are interdependent.

Hypothesis 3:

Bilingualism and Academic achievement:

Many Educational psychologists are interested in the relationship between bilingualism and academic achievement. Carrow (1957) found that monolingual children performed better than bilingual children on California achievement test.

Macnamara (1966) found no difference between monolingual and bilingual children involving arithmetic problems, but bilingualism hindered problem solving ability when they are taught through the weaker
language. Cummins attributed the failure of bilingual children, not so much to instruction through the less dominant language, but to the inability of bilingual children to attain the threshold level of second language necessary to benefit from such instructions.

Durfey (1971) found no difference between monolingual and bilingual children on school achievement.

Morgan (1971) inferred that bilingual children developed a greater consistency in analysing words without the aid of context that enables them to excel the monolingual children.

Skutnabb-Kangas and Toukomaa (1976) reported that development of first language is essential in achievement of academic skills that require abstract mode of thought, even when subjects are taught in their second language. In subjects like biology, chemistry and physics, immigrant children with a good mastery of their first language succeeded significantly better than the those who had poor proficiency.

Cummins (1977) suggested that for optimal development of cognitive and academic achievement of bilingual children, the school programmes must facilitate additive form of bilingualism involving literacy in both first and second language.

Swain (1978) reported that by the end of elementary school, children in immersion programme achieve levels of reading skills in second language equivalent to monolingual children. It is evident from the above studies that there is lack of consistent trend among the results. Based on Cummins' threshold hypothesis, the following hypothesis is generated: Levels of second language proficiency and academic achievement are interdependent.

Hypothesis 4:

Bilingualism and Adjustment problems of children:
Sanders as cited by Weinreich (1953) found that bilingualism causes tension and emotional liability as well as psychological disorders like stuttering.

Rao (1963) found that bilingualism in Indian context is not harmful to children.

Patel (1965) reported maladjustment among bilingual children in India. Martinez (1974) found that bilingual children have antisocial tendencies more than the monolingual children.

It is plausible to presuppose that bilingualism and cheating tendency will be related. In light of indications given by the studies, the following hypothesis is delineated:

Hypothesis 5:

Bilingualism and Cheating tendency:

Perusal of literature revealed that there is a dearth of research work relating the two dimensions.

Gali (1953) reported that the bilingual children tend to be morally depraved due to ineffective, religious instruction.

Rao (1963) found that bilingual children have antisocial tendencies more than the monolingual children.
5.1 Levels of second language proficiency and cheating tendency in children are interdependent.

**Hypothesis 6:**

**Bilingualism and Personality:**

Early childhood is an important phase of life during which personality of children is moulded. Realising this notion, various researchers have related bilingualism and personality. A perusal of literature has indicated the association between the two dimensions.

**Bilingualism and Extraversion-Introversion:**

There is a dearth of studies relating these two dimensions. Although there are some studies relating personality to bilingualism, there is relatively a few relating extraversion-introversion to bilingualism.

Pessier (1973) interrelated the two dimensions by studying the learning ability of speech in English as a second language among adolescents. He found that this personality trait is an important variable in the learning of oral English as a second language.

Moreover it could be presupposed that availability of two languages facilitate greater social interactions which promotes extraversion. Based on this contention, the following hypothesis is deduced:

6.1 Levels of second language proficiency and extraversion-introversion are interdependent.

**Bilingualism and Neuroticism:**

There is paucity of research studies interrelating the two variables. A few studies have shown a negative association between the dimensions.

Shanmugam (1965) found bilingual girls to be more neurotic than the monolingual girls. Sex difference was found in the effects of bilingual
position on personality traits. This study has suggested the relationship between the variables. Based on the indication, the following hypothesis is generated:

6.2 Levels of second language proficiency and neuroticism are not independent.