HUMAN ECOLOGICAL SYSTEMS AND MULTIPLE INTELLIGENCE OF SLOW LEARNER YOUNG ADOLESCENTS

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ABSTRACT
The present study was conducted in Hisar district of Haryana state with the aim to study ecological variables affecting multiple intelligence of slow learner young adolescents. Hundred children in the age group of 12-14 years having IQ 76-89 were taken from the selected villages and schools. Stanford-Binet Intelligence Scale and the multiple intelligence tool was used to assess the I. Q. and multiple intelligence. Micro system variables such as age, sex, type of family, caste, education and occupation of mother, occupation of father and mother’s relationship with in-laws were found significantly associated with interpersonal intelligence. Meso system variables resulted significant association between existential intelligence and father’s relationship with parents. Preference to watch TV programmes and visit to relatives/friend’s relationship with parents were significantly associated with interpersonal intelligence. Exo system variables exerted their influence on interpersonal intelligence through relationship of neighbours. Study concluded that the variables of human ecological environment exerted a powerful influence on the slow learners’ multiple intelligence. Therefore, parents of the children must be educated about the importance of these systems to scaffold the multiple intelligence of slow learner children.

Key words: Slow learner, Multiple intelligence, Ecological variables, Interpersonal intelligence, Existential intelligence.

INTRODUCTION
Slow learners are the students who are unable to cope with the work normally expected of their age group. They have intelligence quotients between 76 and 89 and they constituted about 18% of the student population. A slow learner is usually a normal child in appearance and behaves satisfactorily in many situations of life. Their ability to deal with abstracts and symbolic materials (i.e. language, number concept) is very limited and their reasoning in practical situations is inferior to that of average students. These students slightly differ from normal students in learning ability.

Multiple intelligence theory encourages parents and teachers to nurture children’s overall intelligence. The first kind of smart, linguistic intelligence is the intelligence of words associated with storytellers, politicians, comedians and writers. The second kind of smart, logical-mathematical intelligence is the intelligence of numbers and logic, abstractions. Children skilled in this area love to observe, make associations and create relationship between objects. They enjoy creating and recreating patterns.

Spatial intelligence is the third kind of intelligence involves thinking in pictures, images and the ability to perceive, transform and create different...
aspects of the visual spatial world. Musical intelligence is the fourth kind of intelligence. Key feature of this intelligence are the capacity to perceive, appreciate and produce rhythms and melodies.

The fifth intelligence, bodily kinesthetic, is observed in children with natural skills in physical movement and fine and large motor coordination. The sixth intelligence is interpersonal intelligence. This is the ability to understand and work with other people.

The next intelligence is intra-personal intelligence highlighted by the ability to understand and communicate one’s own thoughts and feelings. Naturalistic intelligence is the eighth intelligence. Person strong in this displays empathy, recognition, and understanding for the living and natural things. The ninth intelligence is existential intelligence. Individual in this like and enjoy thinking, questioning and curious about life, death and ultimate realities.

Intelligence flourishes in an individual’s life as a result of dynamic interaction between his or her biology (good or bad genes), psychology (good or bad family environment) and cultural context. The ecological theory of human development proposed by Bronfenbrenner (1979) explains the development of a person in terms of reciprocal influences between the individual and the settings that comprise the environment. The ecological environment is conceived topologically as a nested arrangement of concentric structures. The structures are referred to as the microsystem, mesosystem and exosystem. So, keeping in view the importance of above present study was conducted to delineate the human ecological factors affecting multiple intelligence of slow learners.

**METHOD AND MATERIAL**

Hisar district of Haryana state was selected purposively. From Hisar district one block (Hisar-II) and from that selected block, 5 villages were selected randomly. From selected villages (namely Kaimari, Haricoat, Gandhi Nagar, Mangali and Singhran) middle and high schools were selected purposively to meet the sample size. From each selected village 20 slow learners were identified randomly. Thus one hundred children in the age group of 12-14 years having IQ 76-89 were selected from the selected villages and schools.

First of all, IQ of slow learners was assessed by Stanford-Binet Intelligence Scale. The scale developed by Terman and Merrill (1973) for the persons between 12 to 14 years of age. For the present study, the items mentioned under the age group from 12 to 14 were administered. The multiple intelligence tool (Intervention Package to Enhance the Multiple Intelligence among Young Adolescents by Gurpreet, (2006) was used to assess the multiple intelligence of slow learners. The tool comprises the nine types of Intelligence: Linguistic, Logical-Mathematical, Spatial, Musical, Bodily-Kinesthetic, Interpersonal, Intrapersonal, Naturalistic and Existential Intelligence. Self developed questionnaire was used to study the human ecological variables affecting multiple intelligence. Chi square test was used to study association of multiple intelligence and ecological variables.

**RESULTS AND DISCUSSION**

Influence of micro system, meso system and exo system variables on multiple intelligence of slow learners’ young adolescents were studied.

1. **Association of Micro System Variables with Multiple Intelligence of Slow Learners**: This deals with the information regarding influence of micro system variables with multiple intelligence components. The data presented in Table 1 show the significant association of age, sex, type of family, caste, education and occupation of mother, occupation of father and mother’s relationship with in-laws with interpersonal intelligence.

The data further shows non-significant association of all micro system variables with bodily-kinesthetic intelligence. With regard to musical intelligence data revealed a significant association
of age, mother’s relationship with in-laws and also shows the non significant association of sex, type of family, size of family, caste, education of mother and father, occupation of mother and father, family income, child’s’ relationship with parents, interaction with grand parents, father relationship with his parents and mother and father relationship.

The perusal of data presented in Table 1 shows the significant association of family income and relationship with parents with naturalistic intelligence. Further a non-significant association of age, sex, type and size of family, caste, and education of parents was found with naturalistic intelligence.

Variable such as caste, occupation of mother, father relationship with parents and parent’s relationship were found significantly associated with existential intelligence. As far as size of family is concerned the data portray a significant associated with spatial intelligence. Further, a significant association was found between type of family and logical-mathematical intelligence. Results revealed significant association of caste, education of father, relationship with parents, and interaction with grand parents and parent’s relationship with intrapersonal intelligence.

The results from Table 1 depict that age is found associated with multiple intelligence. Kauser and Jabeen (1995) found a significant difference between age with regard to giftedness and creativity. Devi and Mayuri (1999) also found significantly and positive association of age with adaptability, academic performance and boldness. Armstrong (1993) stated that girls are sensitive and emotional towards non-verbal emotional cues that make them more interpersonal strong as

Table 1 : Association of micro system variables with Multiple Intelligence of Slow Learner Children.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Micro System</th>
<th>Aspects of Multiple Intelligence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Inter</td>
</tr>
<tr>
<td>Age</td>
<td>13.07*</td>
<td>.953</td>
</tr>
<tr>
<td>Sex</td>
<td>10.92*</td>
<td>4.40</td>
</tr>
<tr>
<td>Type of family</td>
<td>10.43*</td>
<td>.734</td>
</tr>
<tr>
<td>Size of Family</td>
<td>3.62</td>
<td>2.01</td>
</tr>
<tr>
<td>Caste</td>
<td>9.95*</td>
<td>3.03</td>
</tr>
<tr>
<td>Education of Mother</td>
<td>10.16*</td>
<td>.92</td>
</tr>
<tr>
<td>Education of Father</td>
<td>1.68</td>
<td>3.56</td>
</tr>
<tr>
<td>Occupation of Mother</td>
<td>9.81*</td>
<td>1.87</td>
</tr>
<tr>
<td>Occupation of Father</td>
<td>10.01*</td>
<td>3.83</td>
</tr>
<tr>
<td>Family Income</td>
<td>0.97</td>
<td>0.60</td>
</tr>
<tr>
<td>Relation—ship with parents</td>
<td>0.20</td>
<td>1.51</td>
</tr>
<tr>
<td>Interaction with grand parents</td>
<td>1.38</td>
<td>1.35</td>
</tr>
<tr>
<td>Mother relationship with in-laws</td>
<td>9.63*</td>
<td>3.16</td>
</tr>
<tr>
<td>Father relationship with parents</td>
<td>2.17</td>
<td>2.08</td>
</tr>
</tbody>
</table>

*Significant at 5% level of significance.
compared to boys. In other study by Kauser and Jabeen (1995) revealed a significant difference between boys and girls with regard to giftedness and creativity. Similarly Priscilla and Karuna nidhi (1996) found that boys and girls had to differ in the level of self disclosure, self esteem and interpersonal communication and also found that overall self esteem was found to be high for girls than for boys.

The joint family have some advantages over nuclear families, as in such families children are exposed to different persons, the young adults and old members of family, while interacting with them children learn various skills and develop a value system appropriate to their society that make them interpersonally intelligent (Todge, 1996). Children are more attached with their grandparents and do activities in which they get full cooperation from them as grand parents. They also get moral support, love and attention from their grand parents and learn a lot from them. This enhancing their intellectual ability which help in supplementing their verbal exchange and verbal ability. This makes them linguistically intelligent (Vibbert and Bornstein, 1989).

Educated parents are employed in high status occupation, which makes them aware of various aspects of children's development, and their physical and psychological needs. They provide their children with good opportunities and facilities to stimulate their intellectual instincts. They can also provide positive and motivational parental guidance to their children and get more involved with their children that can stimulate their intellectual and linguistic abilities (Slavin, 1989).

Regarding the family income, it is inferred that if the family is economically sound, it could provide better facilities and opportunities to their children whom a low-income family could not afford. Children from high and middle-income group provided with more varied and extensive sensory experiences that help them in the development of cognitive abilities and in promoting the potentials. The parents from such families provide teachers, course books or tools related to the subject at their level of understanding, that help them develop logically and spatially strong (Hinshaw, 1992).

2. Association of Meso System Variables with Multiple Intelligence of Slow Learners: This deals with the information regarding influence of meso system variables on multiple intelligence components.

The data presented in the Table 2 show the significant association of type of programme preference to watch on TV and visit to relatives/friends with interpersonal intelligence. A non-significant association of all meso system variables was found with bodily-kinesthetic intelligence and musical intelligence. Significant association was found with number of friends with naturalistic and linguistic intelligence. The data presented in the table further shows the non-significant association of all the meso system variables with existential intelligence.
The data in table reveal that the significant association of number of friends and age group of friends was found with spatial intelligence and also shows a non-significant association of type of programme preference to watch on TV, visit to relatives/friends and visit by relatives/friends with spatial intelligence.

Regarding logical-mathematical intelligence data revealed a non-significant association of all the meso system variables. Further numbers of friends were found significantly associated with intrapersonal intelligence. Non-significant association was found between intrapersonal intelligence and type of programme preference to watch on TV, age group of friends, visit to relatives/friends and visit by relatives/friends.

It can be concluded from the results that children from families who are more exposed to mass media elements like cable TV, music system etc. and also provided with musical instruments, make them musically proficient (Heer, 1985).

The children who received maximum exposure to mass media are more logically and spatially intelligent because due to technical advancement they are aware of various forms of knowledge. But such children are less kinesthetically intelligent as they spent their most of the time in front of TV. The parents exercise the control by putting restrictions on the type of programme they watch on TV. The parents mostly want their children to watch the knowledgeable programmes (Brofenbrenner, 1979).

### Table 2: Association of Meso System Variables with Multiple Intelligence of Slow Learner Children.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Inter</th>
<th>Bodily</th>
<th>Music</th>
<th>Natura</th>
<th>Ling</th>
<th>Exis</th>
<th>Spatial</th>
<th>Logic</th>
<th>Intra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programs preference</td>
<td>11.35*</td>
<td>1.14</td>
<td>1.38</td>
<td>0.56</td>
<td>3.25</td>
<td>2.68</td>
<td>4.09</td>
<td>2.22</td>
<td>4.24</td>
</tr>
<tr>
<td>Number of friends</td>
<td>7.91</td>
<td>7.33</td>
<td>3.06</td>
<td>10.20*</td>
<td>11.72*</td>
<td>8.84</td>
<td>12.88*</td>
<td>5.13</td>
<td>9.81*</td>
</tr>
<tr>
<td>Age group of friends</td>
<td>6.53</td>
<td>3.51</td>
<td>1.67</td>
<td>1.14</td>
<td>3.83</td>
<td>5.16</td>
<td>12.46*</td>
<td>3.06</td>
<td>2.25</td>
</tr>
<tr>
<td>Visit to relatives/friends</td>
<td>11.36*</td>
<td>2.01</td>
<td>5.52</td>
<td>0.50</td>
<td>6.61</td>
<td>5.79</td>
<td>6.69</td>
<td>3.98</td>
<td>1.91</td>
</tr>
<tr>
<td>Visit by relatives/friends</td>
<td>8.49</td>
<td>6.15</td>
<td>.67</td>
<td>4.87</td>
<td>12.92*</td>
<td>6.82</td>
<td>5.36</td>
<td>4.53</td>
<td>8.26</td>
</tr>
</tbody>
</table>

*Significant at 5% level of significance.

### 3. Association of Exo System Variables with Multiple Intelligence of Slow Learners

This deals with the information regarding influence of exo system variables on multiple intelligence components.

The data presented in Table 3 show the significant association of interpersonal intelligence with relationship of neighbours and non-significant association, with visit to and by neighbours and neighbourhood status. The data also portrays a non-significant association of all the exo system variables with bodily-kinesthetic intelligence, musical intelligence, existential intelligence and logical-mathematical intelligence.

As far as naturalistic intelligence is concerned results revealed significant association with visit to and by neighbours and non-significant association with neighbourhood status and interaction with neighbours. Table further shows the significant association with relationship with neighbours and shows the non-significant association of visit to and by neighbours, interaction with neighbours and neighbourhood status with linguistic intelligence.

Data in table show the significant association of neighborhood status and non-significant association with visit to and by neighbours, interaction with neighbours with spatial intelligence.
When children got opportunity to visit to and by neighbours, interact with others and exposed to diverse type of experiences can also support for their intellectual accomplishment. They got opportunity to meet and interact with different types of people that help in improving their social skills. They are able to make fine distinctions in the intentions, moods and feelings of other people that help them in interpersonal skills. While visiting to friends the children make social comparisons and experience a wide range of feelings that will affect their self perception (Ruble, 1983).

On the basis of above results, it may be concluded that the variables of human ecological environment exerted a powerful influence on the slow learners’ multiple intelligence. Therefore, parents of the children must be educated about the importance of these systems to scaffold the multiple intelligence of slow learner children.

**REFERENCES**


