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Research Paper

Exposure of academic training to the itinerant group children and their intelligence level and intellectual functioning- some preliminary findings

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ABSTRACT

Children from the itinerant group either do not go to school or attend government-run primary schools, with frequent irregularity. However, these children still look very independent in their essential household care and duties. Since they face challenges at a very early age, survival in difficult situations become day-to-day practice for such children. To find out the gap between intelligence level and intellectual functioning in India's itinerant children, the researcher used an Indian standardized intelligence test named Binet-Kamat Test of Intelligence (Indian adaptation of Stanford-Binet Test of Intelligence). For this study, a group of itinerant children were selected. Following the sampling criteria, 24 male and female children attending school and between the ages of 10 years to 14 years contributed to the study sample. Overall, 22 test items related to academic skill and/or practical/ functional skills, were selected from all the test items and the percentage of correct responses given by the children were compared on each selected item. This study shows that children may develop flawed reasoning and lack logical thinking abilities compared to the usual children due to less exposure and interest in academics and insufficient guidance. The scoring percentage showed that children from the itinerant group learn most of the things through imitation. The development of abstract ideas in these children usually develops in local conditions due to their fixed routines for survival.

Keywords: *Itinerant children, Socio-Economical Condition, Intelligence Level, Intellectual Functioning, Academic training*

Education is a process we usually expect to evolve from an early age to 16 years in a school environment. However, there are children from itinerant groups, who because of lifestyle and cultural factors cannot access schooling contexts easily and for whom schooling is an irregular and often a challenging route to navigate (O'Hanlon & Holmes, 2004). Children from the itinerant group either do not go to school or attend government-run

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schools, with frequent irregularity. The priorities for families in these group are generally very different from any other class families, like in the middle-class family's education always considers necessary for children and keeps this on preference for a bright and secure future. Hence, children in such families mostly skip schooling only with few exceptions and when it comes to intellectual functioning, lack of proper schooling becomes evident (McLeod et al., 2008). In such circumstances, the mid-day meal scheme in Indian schools attracts children to attend school regularly and also motivates their parents to send their children to school where they will get food along with their study, which is most important for their good health (Bonaker, 2019). Due to the economic conditions of families, parent of such children often face many difficulties in managing regular family meals; sending their children to the school also helps them in their regular feeding and nutrition.

However, children from such groups show independence in their necessary household activities. This may be attributed to the challenging situations they face which become a day-to-day practice for them at a very early age itself. These children, especially the female children, help their mother in handling the household tasks as well as handling to their younger siblings like a mother from a very young age. Additionally, a bundle of responsibilities brings maturity in these children very early and they learn the things through their own experiences. Their parents often do not have time and educational skills to teach them. Even if they have, it is very limited to support the proper education of their children. Parents are often very busy in making living to fulfilling the basic essential needs of their family. Working in informal sector, both parents in such families mostly leave their home in the early morning itself and comes back in the late evening after doing a laborious job (Kerswell & Pratap, 2019, Bernardshaw et al., 2019). A defined conversation, which is mostly with anger and frustration, shapes their children's life patterns. Frequent arguments between the families even at small issues becomes a part of their day to day life. Physical tiredness does not allow parents to listen to their children's issues patiently, which creates conflict between child and parent. It may affect to the child's emotional health, negatively. These children are prone to develop behavioural problems, which may translate in psychopathic disorder in children in their grown-up age.

Henderson, 2004, studied the educational issues for children of itinerant seasonal farm workers in an Australian context. The study indicated the barriers to the children's literacy learning, including the curriculum discontinuity that the children reported, which appeared to be invisible to teachers. It appeared that the children's good attitude and behaviour, masked the problems that they were experiencing in the school and led teachers into believing not only that they were coping quite well, but also that their regular movement between 'known' schools alleviated some of the perceived difficulties or disadvantages of changing schools. In an earlier study by Bourke & Naylor, 1971 investigated the educational achievement of 3,586 army children in 103 schools throughout Australia and Papua-New Guinea. The study failed to determine any detrimental impact of changing school on children's education or attitudes to school. However, they believed that there was a consistent, non-significant tendency for frequently mobile children to have suffered academically when compared with static children at primary school. For very young and highly mobile children, there is some evidence to suggest that trying to cope with social and environmental change may retard intellectual development. Similarly, Smith et al., 1969, found that the probability of scoring low on a standardized test of intelligence increased with the frequency of changing schools for third-grade children in a depressed urban slum; this finding was not replicated in their sixth-grade sample. This 'intellectual degeneration' in the

highly mobile younger children was attributed to their need to adapt to numerous environmental, educational disturbances, need to cultivate new peer groups and adjust to new organizational procedures in every new school. The traumatic effect of these experiences at an early age was held to be responsible for 'a reduced ability and motivation to cope with the intellectual challenges of school- work'. Duffy, 1987, reviewed the studies performed with geographically mobile families and children of defence force personnel and recommended further research to delineate the extent of the problems, identify cause-effect relationships and help children and their families to cope with the effects of mobility. Wadsworth & Achenbach, 2005 tested the hypothesis that factors associated with socio-economic status (SES) contribute to differences in levels of psychopathology. It was found long ago that major disorders are more prevalent among lower –Socio-economic status than upper-socio-economic status adults Hollingshead & Redlich, 1958. In a recent survey research conducted in China by Sun et al., 2020, the pattern of adaptation of rural to urban migrant children as compared with their peers in urban schools was examined. This cross-sectional study explored the potential factors relating to school adaptation by employing the cultural and structural perspectives, which emphasizes the access to social relations and the socio-economic status in a society. Children of families with a low parental educational level, low family income, many siblings and poor living conditions were found at greater risk attending public schools, and thus require more attention and support from the local government. The study emphasized the necessity of gradual reduction in the disadvantaged status of migrant children in education policies to ensure their right to quality education.

Other than studies, as mentioned above, many researchers have done their study on family issues and its impact on children, in-terms of their cognitive, social and personality development. A study done by Prioste et al., 2020 on relationship between family climate and identity development, and the moderating role of the developmental stage and adaptive outcomes in that relationship, by using cross-sectional quantitative study method. They found in the result that family conflict may difficult adherence to identity commitment and a positive association between family conflict and difficulty in setting goals and in values and beliefs integration in the sense of self. The result also highlighted the role of the family on youth outcome. However, no such study exists on intellectual functioning of children from itinerant group, despite the presence of significantly large population of nomadic community in Indian population.

The study objective was to find out the unnoticed difference between the level of intelligence and the level of intellectual functioning in the itinerant children. This is an important area for their personality development as mostly it seems that the children from itinerant group specially those come from below poverty level, their practical life skills and the problem-solving skills looks sometimes better than any other same age child with average intelligence, who come from the middle class or any high-class family. These children usually show low performance specially in the academic area. Similarly, they usually find difficult to perform well in study by following our conservative teaching system or fixed educational pattern and looks unable to compete with other children studying in reputed and chain of private schools. Comparing their educational performance and achievements, children from itinerant group might be considered with low intelligence. The researcher evaluated the difference in the responses of the children from the itinerant group on a standardized Intelligence test and their intellectual functioning.

METHODOLOGY

Participants

The samples for this research were collected from a group of itinerant children from the Vasna area of Ahmedabad, India. The families of these children belong to the nomadic population, which is quite substantial of overall population of Gujarat in India. All the children participated in the study were school-going children and between the ages of 10 years to 14 years (12 children between the age of >10 years to <12 years and 12 children between the age of >12 years and <14 years). Among those selected in this study based on the research criteria, there were 16 male children and 8 female children. The children younger than 10 years and more than 14 years were excluded. It was also ensured that the participating children do not have any developmental disorder. Binet-Kamat test of Intelligence was administered on all selected children to see the difference in their responses on some of the selected test items.

Measures

Binet-Kamat Test of Intelligence (BKT): This testing tool is an Indian adaptation of the Stanford-Binet Test of Intelligence. It was prepared in 1934 and standardized by V.V. Kamat in the Bombay-Karnatak region in 1964 and re-evaluated in 1967. This scale is age-graded and covers ages from three to twenty-two years. The whole test scale comprises 78 main test items and 21 alternative items. There are six test items, and the alternative test items range from one to three at each age level. This test is to be individually administered on each subject. The test items are specific to each age level. Function-wise classification of items adapted to the Binet-Kamat Test of Intelligence (Lezak, 1983) has six significant categories: Language (L), Memory (M) includes meaningful memory (Mm), and non-meaningful memory (NMm), Conceptual Thinking (C.T.), Reasoning (R) includes-nonverbal reasoning (NVR), Verbal reasoning (V.R.) and Numerical Reasoning (N.R.), Visual-motor (V.M.), and Social Intelligence (S.I.).

The reliability of the Binet-Kamat test of Intelligence is reportedly above 0.7, and the validity of this test for normal children against the estimation of intelligence quotient by teachers is 0.5 (Kamat V.V., 1967).

Research Procedure

With the parent's consent, personal details were taken from children and their parents and intelligence tests were performed for every subject at a nearby place to avoid any uneasiness for them. After collecting the necessary personal details, BKT was administered to all the subjects.

After administering the Binet-Kamat test on children to identify the gap between their academic and practical knowledge in the context of economically poor people, only 22 test items were selected to compare their response percentage. These items were related to both, based on academic exposure as well as practical exposure. The complete list of selected items which were related to academic training and practical skills are mentioned in Table-1.

Table-1: Selected test items for the study to compare intelligence level with the academic training and practical skills within children

S.N.	Item No.	Year	Brief Description of Items
1	First	8 years	Finding the value of coins
2	First	10 years	Arranging five weights
3	Second	7 years	Coping Diamond
4	Second	9 years	Making changes (for example 10-6= 4)
5	Third	8 years	Comprehension 3rd degree (example: What is the thing you to do when you have broken something which belongs to someone else?
6	Third	9 years	Similarities between two things (ex. Mango and Banana)
7	Third	10 years	Naming of Months
8	Third	12 years	Defining abstract words (Pity, honesty)
9	Fourth	5 years	Right left concept
10	Fourth	7 years	Naming weekdays
11	Fourth	8 years	Definition superior to use
12	Fourth	9 years	Using three words in a sentence (ex. Boy, ball, and river)
13	Fourth	10 years	Drawing design from memory
14	Fifth	6 years	Description of Picture
15	Fifth	7 years	Backward counting from 20
16	Fifth	8 years	Naming six coins
17	Fifth	10 years	Rhyming words (a bill, spring, etc.)
18	Fifth	12 years	Interpretation of fables
19	Sixth	7 years	Giving differences from memory (ex. Fly and Butterfly)
20	Sixth	8 years	Reading and report – 2 facts at least
21	Sixth	Ten years	Reading and Reporting – 8 facts at least
22	Sixth	12 years	Interpretation of picture

Data analysis

To quantify the differences in the children's performances/ responses based on the score, percentage of obtained score was calculated for the selected items in the test.

RESULT AND INTERPRETATION

The percentage score responses of all the children the children on selected 22 items are mentioned in Table no. 2:

Table-2: Percentage of children could pass the items as per their age

Test Item Age	Test Item	Percentage of Children could pass
5 years	Right-Left Concept	75 %
6 years	Picture Description	83 %
7 years	Copying Diamond	79 %
	Naming Weekdays	67 %
	Backward Counting	58 %
	Differences between the two	54 %
8 years	Finding coins value	96 %
	Comprehension -3rd Level	75 %
	Definition –Superior Use	67 %
	Naming six coins	75 %
	Reading –Reporting- Two facts	71 %
9 years	Making Changes	75 %
	Similarities	0 %

Test Item Age	Test Item	Percentage of Children could pass
	Making a sentence	17 %
10 years	Arranging weights	42 %
	Naming Months	0 %
	Drawing design	67 %
	Rhyming words	4 %
	Reading –reporting – 8 facts	8 %
12 years	Defining abstract words	58 %
	Fables interpretation	0 %
	Picture Description	75%

At the **five-year** test item, 75% of all the children responded correctly to the 'concept of right-left'. They looked confident as well and able to pass the item norms. At the **six-year** test item, 'description of the picture,' 83% of the total of 24 children could describe the picture adequately as per the test norms. They were able to identify all the items present in the given picture card. At the **7-year** test item, 'coping diamond,' was done correctly by 79% of all the children, indicating a good coping skill in the itinerant children. 67% of children were able to say the 'name of the weekdays' in a proper order as well as the day before said day. This depicts an essential logical ability with a good memory in the children. Moreover, 58% of all the children were able to pass the test item, 'backward counting' as per the test criteria. However, only 54% of all the children could tell differences between the two (exp. Fly and Butterfly). Children who were unable to pass these items showed their limited potential at abstract reasoning, which can be assumed as a reason for their low interest in attending school studies. This subsequently, reflected in low reasoning and logical thinking skills in most children from the itinerate group.

Despite being at a higher-level item of numerical reasoning ability, 96% of children at the age of **8** could pass the item regarding 'finding the value of coins'. It projects the excessive need for money in these children to survive in better conditions deeply to learn about it. At the test item 'third degree of comprehension level,' 75% of the children could pass with their routine habits and practical experiences.

At the test item of 'definition superior to use,' 67% of children could describe the words at a satisfactory level. It was again due to their memory, exposure and information received about that. Among all children 75% could confidently name the coins for the test item 'naming six coins,' and without any mistake. This again indicates their higher need for money compared to the other test items. Due to low reading- writing skill, the same story was told in Hindi for their better understanding, and they were asked to say the same story as they heard just now. 71% of children were found able to tell at least two facts in the test item 'Reading and reporting- two facts'.

At the **age of 9, the test item 'making changes,' 75% of children could pass this item due to limited exposure to** meaningful monitory transactions. Surprisingly, no child out of all 24 children could pass in the test item 'similarities between two things'. Only a few children could say few similarities, but they were not fulfilling the passing criteria as per norm. Similarly, only 17% of children could pass the test item 'making a sentence using three given words' in a proper sentence (in the Hindi language).

At the age of **10 years,** only 42% of children could pass the test item 'arranging five weights,'. It indicates flawed logical and conceptual thinking in the itinerant children. On the same time, in the test item 'Naming of months,' 0% of children, i.e., no child could tell the nameof months in the correct order or even the after and before months of a said month. Some of these children were able to say the names in sequence; however, they made frequent mistakes in telling the month before the said month. For the test item 'Drawing design from memory,' 67% of children were able to pass the item by drawing the given design as per the criteria. It projects memory as well as conceptual ability in children. However, only 4% of children could pass the test item, 'Rhyming words,' with the essential criteria for this item. This shows a low exposure to the academic skill training of children. It could be the result of non-willingness in children toward the studies. Similarly, at the test item 'Reading and reporting- 8 facts', only 8% of children could pass the test item's essential criteria. Due to the low reading- writing skill, the same story was told in Hindi for their better understanding, and then they were asked to say the same story as they heard just now.
At the age of **12 years**, 58% of the children were able to pass when tested for 'defining abstract words- Pity, justice, honesty, etc.', which requires higher-level cognitive skills. Thus, the study results showed that the children who could pass this item were unable to pass few lower age items, such as naming the months (10 years item) and doing monitory transactions other than their routine practice (9 years item). They were also using three words in one sentence (9 year's item). Here the lack of proper academic training may work can be seen as a possible root-cause. At the test item 'Interpretation of fables,' it was found that no child could understand the fables with its morel/lesson. Thus, the pass percentage was found to be 0% for this item. Again, it depicts flawed analytical thinking in children due to a lack of training and exercise practices. However, when it came to test item 'Interpretation of pictures', 75 % of children out of 12 children (ages between 12 to 14 years) could perform up to the mark as per the test criteria. This project their understanding of concrete ideas based on their exposure and memory. At the same time, their expressive ability about the things was also found satisfactory. Some of the children were found better than rest due to their frequent social conversation while helping their parents in their earning activities.

Limitations of this study

The finding of this study should be interpreted with the following limitations. First, due to the challenges of data collection about the itinerant groups and hence a limited data availability, this study employed only a purposive sampling method, in one migrant group of a city and with participants from a narrow age group. Due to this, the sample cannot represent the population of migrant children in most generic manner. Therefore, these findings should not explain the problems of migrant children in other parts of India. Large sample size could be obtained to improve the study finding and a more accurate idea of the difference between the responses on a standardized test. Moreover, a further classification based on various migrants' groups can be done to repeat the study to understand the differences in children's responses from different aspects. Similarly, a comparative study by including children from non-migrant groups but the poor economic family can be performed.

CONCLUSION

This study result reveals that children from an itinerant group lag behind in their cognitive ability due to their limited exposure to abstract ideas and lack of proper academic skill training. Itinerant children mostly get exposure to routine duties in their limited

surroundings and their interests and habits. This study shows less exposure and lack of interest in academics, or due to insufficient guidance, children often show flawed reasoning and lack of logical thinking ability. The scoring percentage shows that children from the itinerant group learn most of the skills through imitation. The development of abstract ideas in these children usually develops in local conditions due to their fixed routines for survival. However, at the same time, due to their excellent memory and imitation skill, these children, based on their exposure and experiences, look more confident in problem-solving skills. Their life's complexity makes them more sensitive toward their day-to-day needs and frequent exposure of a few common sensitive words. Children quickly develop abstract ideas about a few specific and sensitive words like pity, justice, honesty, etc. They could easily explain during testing as any other same-age children from low, middle, or high socioeconomic status. Findings of this study can be extended by further confirmed by larger and more diverse sampling among different itinerant groups of children and for a larger sample, a further classification based on various migrants' groups to understand the differences in children's responses from different aspects.

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Conflict of Interest
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