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METHOD

In the previous chapter the review of the literature has been presented and hypotheses have been formulated. The previous chapter also includes the rationale for formulated hypotheses. This chapter presents a brief description of the method employed to verify these hypotheses. The chapter is divided into four sections: sample and design, tools and variables, procedure, scoring and tabulation.

3.1 SAMPLE AND RESEARCH DESIGN

3.1.1 Sample

The research sample consisted of three groups - commercial sex workers' (CSWs') children as group one, orphans as group two and children from intact families (CIF) as group three. The total sample consisted of 240 children. In order to have a reasonably heterogeneous sample in each group, an attempt was made to draw the samples from several institutions. This would make the sample in each group comparatively more representative.

The sample for the CSWs’ children was drawn from four institutes and the sample of orphans was drawn from five institutes. (One of these institutes provided both CSWs’ children and orphans). Thus a total of nine institutes in the city of Pune contributed to the sample of CSWs’ children and orphans. The sample of CIF was drawn from four Marathi medium schools of Pune. The group-wise distribution of entire sample is presented in table 1.
TABLE 1

GROUP-WISE DISTRIBUTION OF ENTIRE SAMPLE

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Group</th>
<th>Number of Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CSWs' children</td>
<td>80</td>
</tr>
<tr>
<td>2</td>
<td>Orphans</td>
<td>80</td>
</tr>
<tr>
<td>3</td>
<td>CIF</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>240</strong></td>
</tr>
</tbody>
</table>

CSWs' – Commercial sex workers’, CIF - Children from intact families

The gender wise distribution of sample is presented in table 2.

TABLE 2

GENDER-WISE DISTRIBUTION OF SAMPLE.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Group</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CSWs' children</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>2</td>
<td>Orphans</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>3</td>
<td>CIF</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>120</strong></td>
<td><strong>120</strong></td>
</tr>
</tbody>
</table>

CSWs’ – Commercial sex workers’, C.I.F. - Children from intact families.

The age of subjects varied between 12 to 16 years. This is an age of transition, from childhood to adolescence. As such this age range was divided into two levels, level one including 12 to 14 years old children and level two including 14 to 16 years old children. In each age level 20 males and 20 females were selected for each of the three groups. The final distribution of the sample is presented in table 3.
TABLE 3

GROUP-WISE, AGE-WISE AND GENDER-WISE DISTRIBUTION OF SAMPLE

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Group</th>
<th>Age Level 1</th>
<th>Age Level 2</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>12 to 14 years</td>
<td>14 to 16 years</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Males</td>
<td>Females</td>
<td>Males</td>
</tr>
<tr>
<td>1.</td>
<td>CSWs’ children</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>2.</td>
<td>Orphans</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>3.</td>
<td>C.I.F.</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
</tbody>
</table>

CSWs’ – Commercial sex workers’, C.I.F. – Children from intact families.

3.1.2 General Criteria for Sample Selection

1. Sample selected for this study comprised school going children.
2. The sample was taken from among the children who were able to understand, read and write Marathi.
3. Mentally or physically challenged children were not taken in the sample for this study.
4. There was no reference to caste, religion or any other such criteria for sample selection.

Additional Criteria for CSWs’ Children and Orphans

1. Only institutionalised CSWs’ children and orphans were included in the study.
2. All of them had at least three years stay in the institute/orphanage.
Additional Criteria for Children from Intact Families:

1. Children with both parents alive and staying in the family environment were selected.
2. Selected children were day scholars.
3. The parental monthly income ranged between Rs. 3000/- to Rs. 5000/- to match the living standards of the institutionalized children.
4. The children were selected from different Marathi medium schools of the city of Pune.

3.1.3 Research design:

From the above description of the sample it is clear that the research design for this study would be 3 x 2 x 2 factorial design with group membership, gender and age as the independent variables. The group membership was varied at three levels, namely CSWs' children, orphans and the CIF. The gender was obviously varied at two levels - males and females. The age was also varied at two levels - age level one (12 to 14 years) and age level two (14 to 16 years). Thus, for analyzing the data of the present research, a model of 3 x 2 x 2 factorial design would be employed. The various dependent variables are specified in the next section.

3.2 TOOLS AND VARIABLES

In the present research, six tools have been used of which, four tools are standardized tests. The remaining two tools are personal data sheets, one for CSWs' children and orphans and other for the children from intact families. The personal data sheets have been developed by the present researcher for the purpose of this work. The description of these tools is presented below.
3.2.1 Junior Eysenck Personality Questionnaire (JEPQ):

The Junior Eysenck Personality Questionnaire (JEPQ) by H.J. Eysenck and S.B.G. Eysenck (1975, 1976) is used in the present work for assessing personality. The JEPQ provides scores on the three Eysenkian personality dimensions namely Extraversion (E), Neuroticism (N), and Psychoticism (P). In addition, the JEPQ also has a Lie scale (L). The description of these dimensions has already been offered in the chapter two.

In developing the JEPQ, the test authors have taken adequate precautions (1) to obtain items having high loadings on one and only one of the four scales, (2) to obtain scales which would have reasonable internal consistency reliability; (3) to obtain scales having reasonable test-retest reliability and (4) to obtain scales reasonably orthogonal to each other. The JEPQ has 81 items: twenty-four items on Extraversion (E) scale, twenty items on Neuroticism (N) scale, seventeen on Psychoticism (P) scale, and twenty items on Lie (L) scale.

A comment on Lie scale, particularly, is necessary here. Lie scale is a characteristic feature of most of the Eysenkian inventories. Initially the lie scales were introduced in the Eysenkian tests to assess a tendency on the part of some subjects of ‘fake good’. Currently, however, lie scale is conceptualised at least under normal testing conditions as a personality trait in its own right assessing conformity to social rules, (Eysenck and Eysenck, 1976; Lodhi and Thakur, 1993). Therefore, in the present research, lie scale scores would be interpreted as the measures of conformity to social rules.

Psychometric Properties:

As per the manual, internal consistency reliability (alpha coefficients) for children of 12 years and above is as follows: for boys on ‘E’ within the range of .76 to
.81, on 'N' it is .85 to .86, on 'P' it is .69 to .74 and on 'L' scale it is .75 to .80. For girls, alpha coefficient on 'E' within the range of .74 to .77, on 'N' it is .84 to .86, on 'P' it is .55 to .70, and on 'L' scale it is .79 to .82.

As per the manual, the test-retest reliability of JEPQ (English version) with one-month interval, for older children is .55 to .89. The reliabilities of the E, N, and L scales are all within the 7 to .9 range; for P it is a little below the .7 value. According to authors for the purpose of group testing and comparison, these values are acceptable.

The validity data are provided by Eysenck and Eysenck (1975), and Eysenck and Eysenck (1976) in their work.

Marathi Translation

For the purpose of present work a Marathi translation of the JEPQ has been employed. The initial draft of Marathi translation was available from Lodhi and Phadake (unpublished). This translation was further revised by the present researcher (myself) with the help of a doctoral research student in psychology working on Eysenkian and Five-Factor dimensions, a college teacher in Marathi, a trained social worker, a retired college teacher with good background in Marathi and one of the family members of the researcher. Except Phadake, all others were involved in the Marathi translation of other tests used in the present research work.

Internal consistency reliability of Marathi translated test (alpha coefficient) has been computed on the samples of the present work. The alpha coefficient for E is .83, for N .81, for P = .67 and for L scale it is .79. The reliability coefficients are comparable with original reliabilities obtained by the test author.
3.2.2 Self-Esteem Inventory (SEI):

Coopersmith's Self-esteem Inventory (1984) was used to measure self-esteem. This is a fifty-eight-item inventory. The items were divided into two groups: those indicating high self-esteem and those indicating low self-esteem. In the SEI, fifty items are related to self-attitudes related in four areas: peers, parents, school and personal interest. The sub-scale titles for each area are, General-Self, Social Self-Peers, Home-Parents, and School-Academic respectively. The description of these sub-scales is given below:

Sub Scales of Self-Esteem Inventory:

General self:

Children form self images based largely on the way they are treated by the significant people, the parents and teachers in their lives. The self-image is the content of a person's perceptions and opinions about himself. The positive or negative attitudes and values by which a person views the self-image and the evaluations or judgments he makes about it constitute the person's self-esteem. This sub-scale consists of 26 items.

Social self- Peers:

The self-image that is formed by the treatment received from the peers by the children, thereby developing their self-image as related to their social group along with the positive and negative attitudes and values as described above constitute this variable of self-esteem. This sub-scale consists of eight items.

Home-Parents:

Parents are involved in the formation of self-esteem at home. Therefore the development of self-esteem (even before the child goes to school or begins to socialize with peers) begins with parents. This sub-scale consists of eight items.
School-Academic:

Feelings of confidence and self-respect are very important in school performance for the children as also in other areas of life. It has been established that partnership between the parents and school is desirable and necessary to maintain the child’s self-esteem at a positive level in school and academic field. This sub-scale consists of eight items.

Lie scale:

The eight Lie scale items were incorporated into the School Form as an index of defensiveness. The Lie scale items were worded so that they would be answered negatively if the student were being honest and forthright in his or her self-appraisal. Thus the administered inventory comprised a total of fifty-eight items.

Psychometric Properties:

Internal Consistency Reliability Coefficients as measured by Kuder-Richardson formula (KR20), were obtained by Spatz and Johnston (1973). They are .81 for grade 5, .86 for grade 9 and .80 for grade 12 children. These coefficients indicate the adequate internal consistency for students in all three grades. Fullerton (1972) reported a split-half reliability coefficient of .87 and Taylor and Reitz (1968) reported a split-half coefficient of .90. Test-retest reliability for SEI was originally reported by Coopersmith (1967) to be .88 for children in grade 5 (five-week interval) and .70 for children in the same grade (three-year interval).

The validity of the SEI (English version) has been established by author through several investigations. The investigations reported by Kokenes (1974, 1978) confirmed the construct-validity of the sub-scales proposed by Coopersmith as measuring sources of self-esteem. A study on SEI by Kimball (1972) reveals that, the
percentile equivalents showed a consistency of score values at a given percentile, regardless of the population. In respect of the predictive validity, the regression analysis of SEI sub-scale scores indicated that SEI is a fair predictor of reading achievement.

On the basis of studies conducted and reviewed by Coopersmith, it was found that SEI scores are significantly related to creativity, academic achievement, resistance to group pressures, willingness to express unpopular opinions, perceptual constancy (Coopersmith, 1967); perceived reciprocal liking (Simon and Bernstein, 1971); perceived popularity (Simon, 1972); general and test anxiety (Many, 1973); selection of difficult tasks (Goodstadt and Kipnes, 1971); effective communication between parents and youth (Matteson, 1974); and family adjustment (Matteson, 1974).

Marathi Translation:

The self-esteem inventory was translated into Marathi for the present research work. Internal consistency reliability of Marathi translated test (alpha coefficient) has been computed on the samples of the present work. Internal consistency reliability (alpha coefficient) of Marathi translated test is .79.

3.2.3 Children Depression Scale (CDS):

For this study, the Children Depression Scale (CDS) by Lang and Tisher (1978) was found to be most appropriate as it measures depression in six areas and measures pleasure score also. The CDS is used for children aged between 9 to 16 years i.e. children who have the capacity to comprehend the items. The 66 CDS items were also grouped into sub-scales on theoretical and logical grounds. In constructing the sub-scales an attempt was made by Lang and Tisher to allow as many features of childhood depression as was possible to be covered. The full CDS contains 66 items, 48
depressive (D) items and 18 pleasure items (P). These two sets of items are retained as independent scales and scored separately, yielding a depression score and pleasure score. Within the two main scales of the CDS, certain items, which refer to similar features of childhood depression, have been grouped together as sub-scale score. The Depressive scale contains six such sub-scales. The items in each of these sub-scales are mutually exclusive, i.e. each item can belong to only one sub-scale. There are 9 depressive items, which do not cluster together and which do not belong to any of the sub-scales. These are scored as 'Miscellaneous Depression Items'. The positive scale contains two such sub-scales, there are 10 positive items, which do not belong to a sub-scale, these are scored as 'Miscellaneous Pleasure Items'. Each sub-scale is briefly described below.

**Sub Scales of Children Depression Scale:**

**Preoccupation with own sickness and death (Sick / Dth):** This refers to the child’s dreams and fantasies in relation to his sickness and death. It consists of seven items.

**Affective Response (Aff. Res.):** This refers to the feeling state and mood of the respondent. It consists of eight items.

**Social Problems (Soc. Prob.):** This refers to the difficulties in social interaction, isolation and loneliness of the child. It consists of eight items.

**Self-Esteem (Self Est.):** This refers to the child’s attitudes, concepts and feelings in relation to his own worth and values. It consists of eight items.

**Guilt (Glt.):** This refers to the child’s tendency for self blame. It consists of eight items.
Miscellaneous Depression Items: There are nine depressive items, which do not cluster together and which do not belong to any of the sub-scales. These items are grouped together and included as miscellaneous depression items.

Pleasure (Plsr.): This refers to the presence of fun, enjoyment, happiness in the child’s life, or to his capacity to experience these things. It consists of eight items.

Miscellaneous Pleasure Items: There are ten positive items, which do not belong to a sub-scale; these are scored separately as miscellaneous pleasure items.

Psychometric Properties:

In order to assess the stability or internal consistency of the CDS (English version), Cronbach Alpha (Cronbach 1949) was used by authors. The level of Alpha was found to be high (0.96), permitting the conclusion that the CDS has a good level of stability or internal consistency.

Content validity is guided by the issue of the substance or context of the measure being representative of the universe of content being measured (Kerlinger 1966). It was reasonably argued on the basis of content validity that the CDS did measure depression.

Construct validity of test also suggests that CDS is a good measure of depression among children. The CDS scale includes two sub-scales, one containing 48 depressive items and the other containing 18 pleasure items. Both the sub-scales show agreement in the direction of discrimination between the experimental and control groups and scores on the two scales showed a significant level of correlation (0.53) thereby indicating support for the construct validity of the CDS (Cronbach, 1949).
Marathi Translation:

The CDS was translated into Marathi for the present research work. Internal consistency reliability of Marathi translated test (alpha coefficient) has been computed on the samples of the present work. Internal consistency reliability (alpha coefficient) of Marathi translated test was found to be high .97, which is comparable to the original reliability and shows that the test has a good level of internal consistency.

3.2.4 Culture Fair Intelligence Test (CF):

The Culture Fair Intelligence Test by R.B. Cattell and A.K.S. Cattell (1959) has been used to measure intelligence. This test aims to single out the most consistent core of mental capacity in a manner that it presents an exact and meaningful measurement of general intelligence. It is also useful where general ability is one of the variables to be controlled or experimentally manipulated. This test is useful in the analysis of sources of difficulty in maladjusted backward or delinquent children. The test administration takes less time. The test also offers better clinical analysis of causes of backwardness or maladjustment.

The culture fairness of the tests has been demonstrated both in relation to the different national and cultural groups and comparisons across time intervals involving cultural changes. It has been observed that the C. F. tests are testing intelligence ('g' or general relation education capacity) on a core of performance less affected by the vagaries of place and time and the prejudices of ethnocentrism. The tests are thus validly measuring intelligence free from educational influences and local social climate, and retain their norms accurately over a generation. The C. F. test shows no difference of level between boys and girls unlike other conventional tests.
Some slight increase is observed up to the successive administration of the C. F. test just as is the case with other intelligence tests. To achieve greater accuracy of testing, A and B forms of the test were used. The forms A and B are given in that order. It is expected that there will be slight elevation in the scores of form B when the order is followed. However, the forms A and B have been initially constructed to be as nearly as possible of equal difficulty and they are exactly similar in design, number of items and position of correct responses.

Four distinct types of relations usually found in education are balanced in four tests, demonstrated to be of high ‘g’ saturation, giving 50 items each in form A and form B and 100 items in the complete test in Scale 3. The time limit is fixed for each series as under:

Test 1- series: number of items - 13, allotted time - 3 minutes.
Test 2 - classifications: total items - 14, allotted time - 4 minutes.
Test 3 - Matrices: number of items - 13, allotted time - 3 minutes.
Test 4 - Conditions (typology): number of items - 10, allotted time - 2.5 minutes.
Total time required for one test: 12.5 minutes.

*Psychometric Properties:*

Test reliability has been evaluated both in terms of the homogeneity coefficient and the dependability coefficient. The homogeneity coefficient (as a split-half, corrected to full length) came out on three undergraduate groups at .82, .91 and .95. The dependability coefficient has extended from .84 to .94 on four undergraduate groups. Both reliability and validity justify the design of a full test with 100 items and total 25 minutes time for testing. The tests provide a clear statement of achievement due to ability rather than recent opportunities and permit a more accurate prediction for
the individual case when the ability and achievement components are separately assessed.

**Validity** of an intelligence test is its direct correlation with the general ability factor as determined uniquely by factor analyses. The real basis of validity of an intelligence test is its correlation with the construct or concept of intelligence in the general ability factor. The Culture Fair test does not fully depend on one type of sub-test but avoids the construction error by utilizing four designs of proved validity. According to Cattell et al (1941), the correlations with ‘g’ of the four types of sub-tests range between .53, .68, .89 and .99. Thus, the tests ensure the highest possible test validity and guarantee freedom from contamination by specific cultural effects over a wide range of cultural and social differences and consistently provide adequate reliability when both A and B forms are used.

The general instructions and specific instructions for all the four sub-tests were translated into Marathi.

**3.2.5 Personal Data Sheets:**

Two separate personal data sheets comprising the demographic details of the subjects were constructed and were required to be filled in by the students before the actual administration of the scales. Certain details regarding the child, like his/her interests, hobbies, favorite sports, and their future plans etc. were asked in the form. For orphans and CSWs’ children certain details were asked from the in charge of the institutes and some questions like their hobbies, ambitions, and future plans were asked from the subjects.

A separate personal data sheet (PDS) was prepared for the CIF. The items were designed to elicit demographic details and other information like interests
hobbies, future plans of the child. Certain information regarding the subject’s family members was also included in the form. The information in the PDS was sought in order to match the samples. Copies of the PDS are enclosed as Appendix ‘B’ for CIF and Appendix ‘C’ for CSWs’ children and orphans.

3.3 PROCEDURE

Before the commencement of the testing sessions, it was essential to identify the institutions that accommodated CSWs’ children and orphans. It was also necessary to convince their management about the study objectives and the necessity of their cooperation and support for conducting testing sessions. These sessions were planned in such a manner that the normal school schedule of the subjects was not disturbed. Care was also taken to ensure that the testing sessions did not interfere with the scheduled institutional events and programs.

The subjects for this study were drawn from orphanages, institutions for CSWs’ children and from Marathi medium schools in the city of Pune. To match the sample of these three groups and to get the demographic details, special personal data sheets were prepared by the researcher. Formal permissions were taken from the authorities of the concerned institutions (including schools) for administration of tests for this study. The principal’s and class teachers’ help was taken to get relevant sample of the CIF for the study. The researcher (myself) was introduced to the students by the in-charge of the institution and in case of CIF, by the schoolteacher. The researcher informally spoke to the concerned children to establish rapport before testing. The tests were administered during subsequent visits under normal testing conditions.

Testing was done in small groups comprising 8 to 10 children. Testing was done in a room where there was no external disturbance. The children were assured of the
confidentiality of the information sought by the researcher. Assurance was given to the children that, the information would not be shown to the authorities of the institutes/schools. They were appraised that the information was to be used solely for research purpose. They were specifically told that it was not an examination and were told to seek clarification for any doubtful item. The voluntary participation of the students was confirmed and the students were requested to cooperate.

The subjects filled up the PDS as the first step. General instructions were delivered before testing. Specific instructions were printed at the beginning of the questionnaires. These instructions were read out to the students and it was ensured that the subjects followed them before the testing was started.

Due regard was given to the age of the children and their sustained interest in testing was ensured by providing adequate gap between two consecutive testing sessions. The tests were administered in the following sequence: Junior Eysenck Personality Questionnaire, self-esteem, depression and intelligence tests. The testing was completed in two to three sessions. The researcher found that the subjects and the staff of the concerned institutes cooperated well and testing could be carried out as per a mutually agreed schedule.

3.4 SCORING AND TABULATION

Scoring was done according to instructions given in the test manuals. The obtained scores were tabulated for all the study groups and a master data sheet of scores was prepared for statistical analyses.

The obtained data were analysed and the results are discussed in the next chapter.