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AN INVESTIGATION OF THE EFFECTS OF MATERNAL INTEREST AND EMPLOYMENT ON THE SELF CONCEPT OF CHILDREN

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ABSTRACT

The present study examined the relationship of maternal interest and employment with self concept in children. The sample consisted of 110 children (53 boys and 57 girls) of classes VII, VIII, IX and their mothers (62 non working and 48 working). Self concept of children was measured by the Bengali version of Piers Harris Children's self concept scale and maternal interest was measured by a questionnaire developed by Rosenberg. Results showed a positive relationship between maternal interest and self concept in children. But no significant difference in self concept was found between children of working and non-working mothers.

INTRODUCTION

In the socialization process the child is exposed on countless occasions to evaluations made of him by others, particularly by the significant others in his life. On the basis of these approvals and disapprovals, he develops a concept of self. Research findings have shown that a child's social development and adjustment is influenced by the parent child relationship and that there is a positive association between self concept of the child and family experiences (Douvan and Adelson, 1966; Coopersmith, 1967; Baumrind, 1972; and Bee, 1978). If the child believes that the parents think favourably of him, he will develop favourable self concept. Mussen, Conger and Kagan (1963) have demonstrated the permanent effects of parental affection and rejection on the behaviour of children. As mother is more important to a child for love and care, it might be expected that patterns of maternal interaction would play an important role on the adjustment as well as on the development of self concept in children.

Zaman (1975) has shown that the mothers who would give more rewards, more suggestion, show more cooperation and participate in more interactive play would have children who would be classified as adjusted in school. However few attempts have been made to determine how interested is the mother in the child and how the child perceives maternal interest in him and what is the relationship between such maternal interest and the child's feeling of self worth, his level of self concept.

Another important factor by which self concept development may be affected is maternal employment. Miller (1975) has found that maternal employment had a negative effect on the self concept of children. But Douvan and Adelsen (1966) found little relationship between maternal employment and the adolescent boys' activities and psychological characteristics but several effects were noted for the adolescent girls.

Bangladeshi women have started accepting employment in addition to their role as wife and mother. But no study has yet been done in our country to see whether maternal employment has any effect on the self concept of children.

The present study was, therefore, conducted to investigate whether maternal interest and employment has any effect on the self concept of children.

METHOD

The sample

The sample of this study consisted of 110 children (53 boys and 57 girls) and their mothers (62 non working and 48 working). The children were the students of classes VII, VIII, IX and X from different schools of Dhaka city and they were between 12 to 16 years of age. Non working mothers' educational qualification ranged from Primary to Masters level and working mothers' educational qualification ranged from S.S.C to Masters degree and above. Working mothers were employed in different professions such as teaching, banking, medicine, administration and different jobs in garment industries.

Measurement of Maternal Interest

Maternal interest was measured by a questionnaire developed by Rosenberg (1976). It was modified and translated into Bengali by the authors and a high positive correlation was found between the two questionnaires ($r=.97$; $p < .005$). The reliability of the questionnaire was studied on a group of eighty children in

the age range of 12 to 16 years. The test-retest reliability over a period of two weeks was .86.

The questionnaire covered three different areas of life which represented fairly specific points of contact between the mother and child. The three areas were (1) reactions to child's friends (2) reactions to the child's academic performance and (3) responsiveness to the child at mealtime. The questionnaire was a five point scale consisting of fifteen statements, taking five from each area of parental interest. The five response categories were 'always' 'most of the time' 'sometimes' 'seldom' and 'never', and the numerical weightage ranged from 1 to 5. Higher scores were indicative of higher interest of the mother and lower scores indicated lower interest of the mother in her child.

Measurement of Self-Concept

Self-concept was measured by the Bengali version of the Piers Harris Children's self-concept scale. The scale consists of 40 'yes' or 'no' questions (substantial evidence of the construct validity is reported in the manual for Piers Harris Children's Self Concept Scale, 1969). To test the reliability of the Bengali version of the Piers Harris Self concept Scale, the scores of the Bengali version were correlated with those of the original scale and a high positive correlation was found between the two sets of scores ($r = .98$; $p < .005$). High scores on the test were indicative of high self concept and low scores were indicative of low self concept.

Procedure

The Piers Harris Children's Self Concept Scale and the questionnaire measuring Maternal Interest were administered only to those students who expressed their willingness to answer the questionnaires. Arrangements were made beforehand with the school authorities so that a room was available for the administration of the questionnaires. The students of different classes of each school were brought to the room and then the questionnaires were administered. First the Piers Harris Self-concept questionnaire was administered. Test instructions given in the manual were followed. Children, before receiving the scale, were told to answer the items as "you really feel you are, not as you really feel you ought to be". The instructions on the test were read aloud and it was stressed that the students should circle either 'yes' or 'no' for all questions. After finishing the self concept scale, the questionnaire measuring perceived

maternal interest was administered. Before administering the questionnaire the children were told that the researchers were interested to know about their mothers' interaction with them in different situations. It was stressed that the information given by them would only be used for research purpose and would be kept confidential. It will in no way effect their relationships with their mothers and others in school. Whenever necessary the statements were explained to the students by the researchers. There was no time limit in answering the questions. The subjects were also asked to answer few questions concerning their bio-data printed on the top of the questionnaires. Since the purpose of the present study was also to see whether mothers' employment effect their self-concept, the researchers sent letters to each mother requesting them to fill up a short bio-data sheet enclosed with the letter. Mothers were required to give information regarding their educational level, employment status etc. The mothers were also requested to return the bio-data sheet through their children.

RESULTS

The analysis of the present study was based on Pearson product moment correlation and t test. In order to see whether maternal interest has any relationship with children's self concept, correlation was computed and the obtained results are presented in Table 1.

Table 1

Correlation between Self Concept Scores and Mother's Interest Scores.

Measures	N	Mean Score	r
Children's self concept	110	61.95	
Maternal Interest	110	62.73	.69*

Significant at $P < .01$

Table 1 shows a significant positive correlation [$r = .69$, $P < .01$] between children's self concept scores and maternal interest scores meaning thereby that higher the maternal interest the higher the self concept of children and vice versa.

t-test was applied to see whether there is any difference in self-concept between children of working and nonworking mothers and the obtained results are presented in Table 2.

Table 2

Comparison of the Self-Concept of Children in Respect of Employment Status of the Mother.

Groups	N	Mean of self concept score	t
Working	48	57.48	
Nonworking	62	55.42	0.59

The t-value presented in Table 2 shows that there is no significant difference in self concept between children of working and nonworking mothers.

DISCUSSION

The results show that maternal interest is positively correlated with children's self-concept. This finding is consistent with that of Rosenberg (1976) who found that children having more contact with their parents and whose parents show more interest in them are most accepting of themselves. Of course, it is probably not simply interest per se which accounts for the observed relationships. Very likely lack of interest in the child goes along with lack of love, a failure to treat the child with respect, a failure to give him encouragement, a tendency to consider the child something of a nuisance and to treat him with irritation, impatience and anger. Studies show that mothers who are inaffectionate and rejecting and have negative attitudes towards their children and who are most unlikely to praise their children for their accomplishment are responsible for lower self-concept in their children. But whatever other kinds of parental behaviour may affect self concept of children, the idea that the child is important to someone else, that others consider him of worth, of value, of concern is perhaps more important for the development of favourable self conception in him.

Children's self-conception is influenced not only by his own conclusions about his skills and abilities but also very heavily by the significant others about him and by their actions and interest towards him. It should be noted that more parental interest does not mean overindulgence. The child who grows in a healthy home environment where his mother accepts him and shows interest in him makes good adjustments in and outside the home and hence have better self-concept.

The study however failed to show any significant difference in self-concept between children of working and nonworking mothers. This finding is consistent with the finding of Douvan and Adelson (1966). But contradictory findings were reported by Miller (1975) who found great effect of employment on the self-concept of children.

This finding of the present study may be explained by the fact that effects of maternal employment on the self-concept of children may depend on a wide variety of factors such as full time or part time maternal employment, provision for substitute care, age and sex of the child, mother's attitude towards work, children's attitude towards maternal employment and mother's attitude towards child care.

In our country in most of the cases there is provision for substitute care when mothers go for work. Since the subjects in the present study are grown-up school going children, mother's absence may not have any adverse effect on their self and when their mothers go for work they spend that time in school. We also know that it is the quality and not the quantity of interactions between mother and child that is of psychological significance. In individual cases where the mother's employment seems to have adverse effect on self-concept of child it is likely that other disruptive factors in the home are responsible. Studies conducted by Hoffman (1961) and Woods (1972) showed that mothers who had favourable attitudes toward their work had children whose scores were also high for personal and social adjustment.

Another possibility which may have accounted for the non significant difference in self-concept between children of working and nonworking mothers is the education of the mothers. From the data it shows that most of the mothers are educated whether working or non working. So mothers of both the groups may have similar child rearing patterns and may realize the importance of taking interest in children in similar ways.

From the present study it may be assumed that it is not maternal employment but maternal interest which effects the self-concept of children. The feeling that one is important to a 'significant other' is probably essential to the development of a feeling of self worth. However, more studies with larger number of subjects of different age groups, mother's level of education, working hour, kind of profession etc. are necessary to make any conclusive statement regarding the effects of maternal interest and employment on the self-concept of the children. In conclusion, the findings of the present study throw light into an area which needs further research.

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SOCIAL INSIGHT AND SIZE OF THE FAMILY

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ABSTRACT

The purpose of the study was to investigate the relationship between social insight and size of the family. The sample consisted of 50 mothers having 3 or less than 3 children (small family) and 50 mothers having 4 or more than 4 children (large family). They were administered Bengali version of the Test of the Social Insight. The results showed that the mean social insight scores of the mothers of small family is significantly higher than that of the mothers of large family. On further analysis it was found that when compared to the scores of the mothers of small family, the mothers of large family obtained lower scores for Competitiveness and higher scores for Passivity. No significant difference was found regarding the modes Withdrawal and Aggressiveness.

INTRODUCTION

Individual attitudes concerning the number of children one wants are influenced partially by social norms. During the 1960's and early 1970's there has developed an increasingly strong public concern over the depletion and pollution of our natural resources and a recognition of the crucial role played by over-population in this so called "environmental crisis" (Ehrlich, 1968). It is pointed out that at present growth rate by the year 2000 world's present 3.5 billion people will increase to 6 billion—unless population growth is checked. Population is seen as being already out of balance with resources, with the prospect for future looking very grim. Some social analysts regard control of population as the most important item on the agenda for man's survival. As a consequence, strong movements for a 'three-children' and later on for a "two-children family" norm (i.e zero population growth) have developed. But this message has failed

to carry any meaning for some developing countries like Bangladesh, as is apparent from the present population growth rate of 2.36 percent. People in Bangladesh, specially the rural people consider their children as a source of income and by the time the children reach the age of 5 years, they start to help their parents in various activities. The parents consider their children also as insurance for old age. Moreover, according to the U.N.O. report I983, as the infant mortality is very high in developing countries, parents suffer from a sort of insecurity which leads to more children. Besides these, factors like economic condition, education, religion etc. influence the number of children the parents have.

In view of these facts it may be assumed that as the urban people are better educated and economically more solvent than the rural people so, comparatively, population growth rate would be lower in the urban areas. But according to Bangladesh Census Report, 1977 and world Fertility Survey conducted in Bangladesh during 1975—'76 the difference is very little.

This finding encourages search for some other factors which might be related to the number of children the parents have. It seems that the parents having large family are either unaware or indifferent to the social problems arising out of population growth or they differ from the parents of small family in their ability to perceive social problems. Social insight is the ability to perceive and to understand the meaning of social situations and of the persons in it (Hurlock, 1981). It is concerned with the mode of reaction the individual exhibits in resolving interpersonal and social problems. Psychologists sub-divided people into two groups viz., "inner people" and "outer people". The "inner people" concentrate on thoughts that swirl within their heads. They shy away from external experiences and avoid looking at what is happening around them. As the "inner people" do not exercise their cognitive and feeling activities freely their ego development is restricted, their psycho-social development is immature and they have low social insight.

The present study was therefore conducted to find out whether social insight acts as a correlate of the size of the family.

In this connection it was hypothesized that mothers of large family would have significantly lower social insight than that of the mothers of small family.

METHOD

Subjects

The sample consisted of 50 mothers having 2 or less than 2 children (small family) and 50 mothers having 4 or more than 4 children (large family). Mothers of 3 children were not selected as subjects of this study because it was observed that people vary in their opinion as to whether 3-children family should be considered as a large or a small family. The age range of the samples was from 30 to 45 years. The two groups of samples were matched in respect of age, education, number of siblings, income of the family and education of the husband. They were selected from different areas of Dhaka city.

Instrument used

A Bengali version of Cassel's (1959) Test of Social Insight (Adult edition) was used in this study. The original test was adapted in Bangladeshi culture by Begum and Perween (1984). The TSI contains 60 multiple choice items, each having 5 alternatives. Each alternative offers one of the following modes of resolution of the problem expressed in the items: Withdrawal, Passivity, Co-operation, Competition and Aggression. The characteristic pattern of the individual is determined from the frequency of response chosen.

Definitions of the modes are as follows:

Withdrawal : The individual avoids or escapes the social problem area.

Passivity : The individual remains in the social problem area, but is passive, choosing not to participate in the solution of the problem.

Co-operation : The individual initiates an active and positive endeavour directed at the solution of the problem.

Competition : The individual engages in activity that elicits the attention of others; he attempts to excel or outdo others as means of dealing with the social problem.

Aggression : The individual makes little effort toward solving the problem and is primarily concerned with expressing hostility or strong emotional feelings in direct response to the problem.

Procedure

A visit was made to the house of each of the subjects and the test was administered individually following standard procedure. The subjects took on average one hour to complete the questionnaire.

RESULTS

In the present study the total score is indicative of over-all social insight and part scores reveal the modes or dynamics. t-test was used to find whether there was any significant difference between the two groups regarding Withdrawal, Passivity, Co-operation, Competition, Aggression and total score. The results are presented in Table 1.

Table I

**Results of t-test for TSI Total and Part Scores of the
Mothers of Small and Large Family**

Variables	Mean		t	p Δ
	Mothers of Small Family	Mothers of Large family		
Total scores	24.15	19.55	2.30	0.05
Withdrawal	7.05	7.80	0.72	
Passivity	11.10	16.15	3.58	0.001
Co-operation	3.50	2.55	2.75	0.01
Competition	12.60	9.95	2.05	0.05
Aggression	8.45	7.05	1.16	

Results provided in Table 1 revealed that on the mode Passivity significant differences between the mothers of two groups were found at 0.001 level and on the modes Co-operation and Competition, differences were significant at 0.01 and 0.05 level respectively. Results also indicate that the overall social insight of the mothers of large family was poorer than that of mothers of small family.

The modes Withdrawal and Aggression failed to differentiate significantly between the two groups.

DISCUSSION

The results of the present study indicated that social insight of the mothers may be considered as an important variable related to the size of the family. Social insight of the mothers of large family was found to be poorer than that of the mothers of small family and thereby hypothesis of the present study was confirmed.

The results also showed that mothers of small family are less passive, more co-operative and competitive than mothers of large family. As an explanation of this finding it may be suggested that as the mothers of large family are too busy with the problems of their own family they have very little time to be involved with or even to think of the social problems. Or it may be said that as they are relatively indifferent to social problems, they themselves create social problems by having large families. However, this cannot explain why there is no difference between the two groups regarding the mode withdrawal.

In case of aggression also no significant difference was found between the mothers of two groups. In Bangladesh, girls are discouraged from their early childhood, any expression of aggression and the society shows unfavourable attitude towards females showing aggressive behavior. So, it is expected that mothers of large family and small family might not show significant difference in aggression.

In conclusion, it may be said that the study is open to one criticism that since it was made on mothers after they had their children, it is very hard to establish cause and effect relationship between size of the family and social insight. To overcome this problem further studies of the longitudinal or follow-up type are suggested which would measure social insight of the subjects before they have any child and then observe how many children they do have.

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SHIFT AND NON SHIFT WORKERS' RESPONSES TO SOME FAMILY RELATED QUESTIONS

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ABSTRACT

The present paper is based on the results of a study conducted to examine whether there are any differences in the response patterns of the shift workers and the non-shift workers on questions related to their family life. The sample of the study comprised 276 shop floor workers. Of them, 164 were shift workers and 112 non-shift workers. Data were collected by employing a structured interview schedule consisting of 16 items. Analysis of subjects' responses to the specific family-related questions revealed that compared to the non-shift workers, a higher percentage of the shift workers felt that their work-schedule disturbs family life.

INTRODUCTION

Shiftwork, though originally restricted to certain industries, seems to have spread to a great extent over the last few decades to the most diverse branches of economic activity both in industrially developed and developing countries. However, various studies and reviews conducted so far in this area have demonstrated that shift workers consistently experience more physical, psychological, and social problems than normal day (non-shift) workers (Carpentier & Cazamian, 1977; Dunham, 1977; Kumashiro, Mikami, & Saito, 1982; Maurice, 1975; Mott, Mann, McLoughlin, & Warwick, 1965; Smith, Colligan & Tasto, 1982).

It is an established fact that the main activities of our societies are organised around the "normal" working day, but shiftwork as a way of organising the use of time forms "unconventional" patterns. Disadvantages of being subjected to work schedules that change every fortnight, every week, or sometimes even several times a week, are quite understandable. Shiftwork is, thus, often contrasted with normal day work, and those who work under a system

of two or three 8-hour shifts generally consider that they are not leading a normal existence, that their life is "different", etc.

One of the most common spontaneous complaints about shiftwork is that it interferes with family life (Maurice & Monteil, 1965; Spencer, 1970; Ulich, 1957). Several studies (Banks, 1960; Brown, 1959; Mott et al. 1965) have shown that the wives of the shift workers have to change the organization of domestic life every week and that they find it more difficult to prepare meals. Shift workers also often complain of reduced opportunities for contact with their children (Carpentier & Cazamian, 1977; Ulich, 1957).

Against the background of almost negative effects of shiftwork on family life, there are also indications that shiftwork does not disturb normal family life. It has been pointed out by Wedderburn (1981) that whereas 33% of his respondents claimed to be worse off for "time with the family", 42% claimed that they were not affected, and 19% claimed that they were better off in this respect. On the other hand, an inquiry by Chazalette (1973) showed that shiftwork had both its advantages and inconveniences for family life.

From the foregoing discussion, it appears that though the shiftworkers are in the general disadvantage as compared to their counterparts in the normal day work system, the effect of shiftwork on the family life of the workers is still inconclusive. The present study, therefore, aims to find out whether there are any differences in the response patterns of the shift and non-shift workers on questions related to family life.

METHOD

Subjects

The sample of the study comprised 276 shop floor workers. Of them, 164 were shift workers and 112 non-shift (normal day) workers. They were skilled artisans and regular employees of an electrical industry. The subjects were all males having been selected by random sampling method.

All the subjects were married, having no instances of divorce. The educational level of the subjects ranged from primary to post graduation and none was illiterate. Subjects' age and experience ranged from 22 years to 54 years and 1 year to 24 years respectively.

Measuring Instrument

The method research employed to collect data for the investigation was that of field study through questionnaire. For this purpose, a structured interview schedule consisting of 16 items was constructed. Of this, 12 items were concerned with demographic and other necessary information and 4 items were specifically related to the workers' family life. For the specific family related questions, the subjects had to answer by saying either "yes" or "no".

Procedure

For the purpose of the study, 10 shops/departments covering shift and non-shift systems of work were selected. While selecting the departments, care was taken to ensure that the nature of work of the shop floor workers in these departments was comparable as far as possible. The Supervisor or Section-in-charge of each of these departments was contacted for having a complete list of the workers in the respective department/section as well as for securing his full cooperation in carrying out the interview with the workers. With the help of the said list, the subjects from each department were actually selected at regular intervals.

By employing the interview schedule, interview with each of the subjects was conducted in a face-to-face situation ensuring privacy and intimacy.

RESULTS AND DISCUSSION

It may be mentioned, again, that the interview schedule included some specific questions which were on the family life of the workers with reference to their working hours. Subjects' responses to these questions were analysed into percentages and the results to this effect are presented in tables I through 4.

Table 1

Shift and Non-shift Workers Feelings of Marital Happiness (percentages of yes/no responses)

Response Categories	Shift Workers	Non-Shift Workers
No	9.1%	3.6%
Yes	90.9%	96.4%

The above table shows that though the great majority of the respondents in both the groups were happy in their marital life, yet, compared to the shift workers (90.9%), a higher percentage of the non-shift workers (96.4%) felt the same. This indicates that cases of marital unhappiness are likely to be higher among the shift workers.

Table 2

Percentages of yes/no responses of the Shift workers and the Non shift workers on the Question 'whether they get enough time to look after their children'.

Response Categories	Shift workers	Non-Shift workers
No	34.93%	27.0%
Yes	65.07%	73.0%

It is evident from table 2 that a higher percentage of the non shift workers (73%) rather than the shift workers (65.07%) affirmed that they used to get enough time to look after their children. That is, in a relative sense, shift workers are deprived of the opportunity to look after their children.

Table 3

Percentages of yes/no Responses of the Shift Workers and the Non-shift Workers on the Question 'whether they feel that their working hours create problems for their family members'.

Response categories	Shift workers	Non-Shift workers
No	19.51%	33.93%
Yes	80.49%	66.07%

The above table reveals that the percentages of 'yes' responses were higher in the shift working group (80.49%) than in the non-shift working group (66.07%). In other words, vast majority of the shift workers felt that their working hours create problems for their family members.

Table 4

Percentages of yes/no responses of the Shift Workers and the Non-shift workers on the Question 'whether their working hour requires their wife and family members to make special arrangements for their (i.e., respondents') meals and sleeping time'.

Response categories	Shift workers	Non-Shift workers
No	15.85%	33.04%
Yes	84.15%	66.96%

It may be examined from table 4 that the differences in the response patterns of the two groups on the question under consideration were quite pronounced. Compared to the non-shift workers (66.96%), a higher percentage of the shift workers (84.15%) affirmed that their working hour requires their wife and family members to make special arrangements for their (respondents') meals and sleeping time.

The results of the study, therefore, show that compared to the shift workers, the non-shift workers are better placed in their family life. That shiftwork interferes with family life, that shift workers have lesser opportunities for contact with their children - are in general agreement with the past findings (e.g., Carpentier & Cazamian, 1977; Maurice & Monteil, 1965; Spencer, 1970; Ulich, 1957). The findings of the present investigation, thus, give further confirmation to the view that shiftwork has adverse consequences for the family life of the persons who are directly working under this system.

SUGGESTIONS FOR FURTHER STUDY

Some investigators (e.g., Wedderburn, 1981) claim that demographic variables might moderate the effects on family life. But this study did not intend to investigate the moderating effects of demographic variables. So, a future study on the effects of shift system may take the demographic variables as moderators. Secondly, the wives and family members of the shift workers were not included as subjects in the present investigation. It is especially the

wives of the shift workers who face the problems resulting from the changing work schedule of their husbands. Thus, it would be worthwhile for a future investigation in this direction to take the wives and other family members of the shift workers as subjects.

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CRITICAL FLICKER FREQUENCY OF NORMAL INDIVIDUALS AND SCHIZOPHRENIC PATIENTS AS A FUNCTION OF COLOUR AND AUXILIARY STIMULATION

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ABSTRACT

This study investigated whether or not (1) critical flicker frequency (CFF) of schizophrenics is higher than that of normal individuals, and (2) stimuli which will cause arousal will also raise CFF. 72 subjects, 36 normal and 36 hospitalized schizophrenics, between 20 and 25 years of age were employed in this experiment. A 3×3 factorial design was used in which visual and auditory stimuli were presented randomly. An electronic pulse generator was used to produce flickering light. Coloured illumination was provided by inserting Kodak coloured films. A Philips tape-recorder was used to provide sound stimulus.

Results show that CFF of schizophrenics was higher than that of normals and that coloured lights had significant effects on CFF of both groups of subjects. CFF was lower under coloured lights than under white light. Auxiliary auditory stimulation did have differential effects on CFF of normals and schizophrenics. Whereas auditory stimulation raised CFF of normal subjects, it did not have any significant effect on CFF of schizophrenic patients. The present findings of higher CFF in schizophrenics may indicate cortical arousal in the patients.

INTRODUCTION

Critical flicker frequency (CFF), the rate at which successive stimuli cease to appear to flicker and become steady, has been correlated with a number of psychophysiological variables (Brozek and Keys, 1944; Caspary, 1951; Ryan, Bitterman, and Cottrell, 1953; Rohracher, 1949; Wendt, 1955). CFF drop, for example, has been found to be correlated with low level of motivation

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(Caspari, 1951 ; Wendt, 1955). Rohracher (1949) points out that CFF drop is a measure of fatigue. Wendt (1955) points out that as highly motivated subjects will direct more attention and effort to their task than the less motivated subjects, CFF, indicating a suitable physiological measure, will rise with the former than with the latter. The findings of Wendt and his explanation suggest that possibly CFF rise is correlated with arousal.

Experimental evidence also indicates that certain type of mental abnormality is associated with physiological arousal. Schizophrenics, for example, are more physiologically aroused than they would seem behaviourally (Venables, 1963 ; Venables and Wing, 1962). A review of literature by Depue and Fowles (1973) shows that schizophrenic patients exhibit more electrodermal arousal than normal individuals. Experimental study by Bernstein (1967) shows that schizophrenics exhibit more electrodermal arousal than normals. It is, therefore, expected that CFF of schizophrenic patients will be higher than normal individuals.

Thus, the present study was designed to investigate whether or not CFF will be higher with schizophrenic patients than with normal controls.

If the above assumption that the CFFs of schizophrenics are higher than normals because the former are more physiologically aroused is correct, we further expect that the stimulus which will cause more cortical activation will also raise CFF. Experimental evidence shows that red light is more activating than blue light (Ali, 1967; Gerard, 1958). It has been found that the abolition of alpha rhythm is more pronounced under red light than under blue light (Ali, 1972, 1973). These findings indicate that red light is associated with cortical arousal more than blue light. It is, therefore, expected that red light which causes cortical arousal will raise CFF more than blue light. The present study investigated this phenomenon also.

According to the activation theory of CFF, it is expected that any auxiliary stimulation which calls for attention and effort on the part of subjects will raise CFF. Intersensory stimulation which will demand more attention and effort will therefore increase CFF. The effect of intersensory stimulation upon CFF has been investigated by Kravkov (1939) and Lee (1964). Kravkov (1939) used sound and odor as auxiliary stimuli. The extraneous sound stimulation was began at the end of 30 minutes and continued for 10 minutes, during which time a total of three readings were taken. The findings show that CFF increased under the influence of sound

when the light used for flicker was intense, and CFF decreased when the light was weak. This was also true for the influence of odor. Kravkov also found that when he used green light for the flashes the odor reduced CFF while it enhanced colour sensitivity. When he used orange-red light the effect was the opposite, CFF was enhanced, and colour sensitivity was diminished. These findings indicate that increase in CFF does not depend on an increase in the sensitivity of the eye, at least to colour.

The present study was also designed to investigate the effect of auxiliary auditory stimulation on CFF. Three auditory stimulus situations were created namely, noisy, quiet, and meaningful stimulus conditions. During meaningful stimulus situation subjects were required to listen to stimulus words being announced from a tape-recorder while their visual CFFs were recorded. They were required to reproduce these words later correctly. They therefore became more motivated and listened to the words more attentively. Thus, it is expected that CFF will rise significantly during the meaningful stimulus situation than during either quiet or noise condition and that CFF rise will be higher during noise condition than during quiet condition.

The present study therefore investigated the following hypotheses :-

1. CFF of schizophrenic patients will be higher than that of normal individuals.
2. CFF will differ significantly as a function of colour. We further hypothesize that CFF will increase under red light, decrease under blue light, and will remain intermediate under white light.
3. CFF will differ significantly as a function of auxiliary auditory stimulation. We further hypothesize that CFF will increase during meaningful auditory stimulation, decrease during quiet condition and will remain intermediate during noise situation.

METHOD

Subjects

The sample consisted of 72 human males. Half of them were normal and the other half were hospitalized schizophrenics. Their ages ranged between 20 and 25 years. The normal subjects were randomly drawn from student population of Dhaka University. The abnormal subjects were randomly selected from Pabna Mental Hospital, diagnosed as schizophrenics by Hospital authority. The subjects were from visual and auditory defects. None of them was colour blind.

Apparatus and Physical Layouts

The apparatus was an electronic pulse generator. The coloured flickering light was provided by inserting Kodak coloured films (No. 25 for red; 38A for blue). A Philips tape-recorder was used to provide subject's with sound stimulus.

Paper and pencil were used to record subject's perception of flicker fusion. As the experiment was carried out in a dark room, one table lamp was used.

Design

A 3×3 factorial design was used for normal subjects in which colour presentation was varied in 3 ways (Red, Blue, and White). The auditory stimulus was also varied in 3 ways (Quiet, Noise and Meaningful stimulus). 12 subjects were assigned randomly to quiet condition (QC), 12 to noise condition (NC) and 12 to meaningful stimulus condition (MSC). Each subject perceived flickering light under white, blue and red colour successively but the presentation of the colour was counter-balanced. The same design was used for abnormal subjects.

Procedure

The subjects were treated individually in their specific conditions, such as, QC, NC, and MSC. The subject was first tested for colour blindness with the help of the Ishihara Test of Colour Blindness. When he was found alright in this test he was led to the dark room. He was seated on a chair. The flicker fusion apparatus was placed on the line of subject's vision and about 18 inches away from his eyes. His head movement was restricted by placing his chin over a chin rest. The intensity of the stimulus light (red, blue or white) remained constant throughout the experiment. Each subject received red, blue and white light in a predetermined order i. e. the sequence of presentation of the stimulus light was different for different subjects. Under each condition again there were ascending and descending series. In the ascending series, the rate of flicker was increased gradually until subject reported the perception of fusion. In the descending series, on the other hand, the rate of flicker was decreased gradually until subject reported perception of flicker. In each series (ascending and descending) the stimulus was presented five times plus one practice trial. The starting point with the ascending series was 20 cps and that with the descending was 80 cps. The same procedure was followed during QC, NC and MSC except that during NC subjects were given meaningless sound generated from the tape recorder. During NC subjects were informed of this sound but they were not told to pay any attention to it while perceiving

the stimulus light. But during MSC they were asked to listen and remember some meaningful words and perceive the flickering light at the same time. Fifteen Bengali words were recorded in the recording tape and played throughout the whole session repeatedly at an intensity equal to the intensity of the noise. In order to remove fatigue of the eyes, inter-trial rest pause of five minutes were introduced. Two experimenters (two authors) collected data. In order to reduce experimenter bias, half of the subjects of one condition were run by one experimenter and the other half by another experimenter.

RESULTS

Visual CFFs of both normal subjects and schizophrenic patients were measured in different coloured lights and under different conditions of auditory stimulation. The results have been summarized in Table 1. Data were analysed to see the difference between CFFs scores of normal subjects and schizophrenic patients ignoring colour and sound effects. *t* test for two independent groups.

Table 1
Mean CFF scores of Normals and Schizophrenics

Conditions		Red		Blue		White		Grand Mean
	Normal	Schizophrenic	Normal	Schizophrenic	Normal	Schizophrenic	Normal	Schizophrenic
Noise	40.67	46.50	40.90	45.24	45.56	48.60	42.51	46.78
Quiet	40.50	42.10	39.85	41.76	45.67	48.46	42.00	44.11
Meaningful	42.03	43.96	42.00	43.97	47.21	46.93	43.75	44.95
Grand Mean	41.02	44.19	40.92	43.66	46.28	48.00		

groups was applied to examine whether or not the difference was significant. The results (Table 2) show that CFF scores of normals and schizophrenics differed significantly. CFF scores of schizophrenic patients were greater than

those of normal subjects. The first hypothesis that CFF of schizophrenic patients will be higher than that of normal individuals is therefore confirmed.

Table 2
Mean CFF scores of Normals and Schizophrenics and t-value

Normal N=36	Schizophrenic N=36	t
42.76	45.29	5.27 **

** $P < .001$

The raw scores of both normals and schizophrenics were subjected to a two-factor analysis of variance. The results of this analysis have been presented in Tables 3 and 4 respectively. Table 3 shows a significant main effect of colour ($F = 54.92$, $df = 2, 99$; $P < .001$) for normal subjects.

Table 3
Summary of Analysis of Variance of CFF cores of Normal Subjects

(A=Sound, B=Colour)

Sources of variation	df	Ms	F
A	2	29.85	4.90 **
B	2	334.46	54.92. **
AB	4	64.37	10.57 **
S/AB	99	6.09	

** $P < .001$

This shows that CFF differs significantly as a function of colour. The main effect of auditory stimulation for normal subjects was also significant ($F = 4.90$, $df = 2, 99$; $p < .001$). This means that CFF also differs significantly as a function of auditory stimulation. The interaction effects of both colour and auditory stimulation on CFF were also significant ($F = 10.57$, $df = 4, 99$; $p < 0.01$). This indicates that the perception of flicker fusion in different

coloured lights was influenced by auditory stimulation. This would mean that CFF is affected by intersensory stimulation.

Neuman-Keul test of multiple comparison was computed to test the significance of mean differences (i.e. between NC and QC, NC and MSC, and between QC and MSC: between red and blue, red and white, and between blue and white). This comparison shows that mean differences between MSC and QC and between MSC and NC are statistically significant. But the mean difference between NC and QC is not statistically significant. The test of comparison also shows that the mean differences between red and blue is not statistically significant.

For abnormal subjects the analysis of variance (Table 4) shows that the main effect of colour is significant ($F = 5.58, df = 2, 99; p < .001$). This means that CFF differs significantly as a function of colour. But the main effect of auditory stimulation is not significant. The interaction effect of colour

Table-4

Summary of Analysis of Variance of CFF scores of Schizophrenic Patients

(A=Sound, B=Colour)

Sources of variation	df	Ms	F
A	2	68.66	1.87
B	2	204.97	5.58 **
AB	4	18.80	.51
S/AB	99	36.71	

** $P < .001$

and auditory stimulation is not also significant. This indicates that intersensory stimulation did not affect the CFF of schizophrenics.

The Neuman-Keul test of multiple comparison was also computed to test the significance of mean differences of schizophrenic patients. This comparison shows that the mean differences between MSC and QC, between MSC and NC, and between NC and QC are not statistically significant. The test of multiple comparison also shows that the mean differences between red

and white and between red and blue are not statistically significant. The mean difference between blue and white is however statistically significant.

The results were further analysed to see the direction of CFF differences of normal and abnormal subjects in red, blue, and white lights. The results have been summarized in Table 5 which shows that CFF scores of schizo-

Table 5

Mean CFF of Normals and Schizophrenics under Red, Blue and White Lights, Their Differences and t- values

Subjects	Mean CFF under Red light	Mean CFF under Blue light	Mean CFF under White light
Normal (N = 36)	41.08	40.92	46.28
Schizophrenic (N = 36)	44.19	43.65	48.03
Difference	3.11	2.73	1.77
t	3.83 **	4.33 **	3.36 **

** $P < .001$

schizophrenic patients were greater than those of normal subjects under the three conditions of light. t-tests show that these differences are statistically significant.

To summarize the results, the first hypothesis has been confirmed but the second and the third hypothesis have been partially confirmed. Colour did have significant effect on the CFF of both normal subjects and schizophrenic patients. It was hypothesized that CFF would increase in red and decrease in blue. But our data did not support this part of the hypothesis. The auxiliary auditory stimulation did have significant effect on the CFF of normal subjects but it did not have any effect on CFF of schizophrenic patients.

DISCUSSION

The results of the present study supported the hypothesis that CFF of schizophrenic patients is higher than that of normal individuals. The higher

Therefore, a comprehensive study of CFF of different types of schizophrenic patients along with their electroencephalographic investigation might throw new light on the nature of schizophrenia.

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Источники

MOTIVATION AND FERTILITY

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ABSTRACT

The study was conducted to examine whether women with higher fertility and larger family size goals differ significantly from those with lower fertility and smaller family size goals in respect of family welfare, health, economic and ethical-cultural motivations. A motivation scale was administered on 165 currently married women of reproductive age-group.

It was found that women with stronger antifertility motives, as measured by the test, had smaller family size goals and actually had smaller number of living children. It was also observed that strong antifertility family welfare, health and economic motives may not lead to use of contraception unless the women have strong antifertility elements in ethical-cultural motivation.

INTRODUCTION

Motives have been regarded as the immediate psychological factors responsible for any human or animal behaviour including fertility. Hence, excitation and control of fertility behaviour according to desired ways must depend upon the understanding of the motives underlying this behaviour. Though a large portion of the already existing research has been devoted to the study of socio-demographic variables related to fertility, little is known about the motivations working behind it. One of the reasons for this limitation previous research may be the lack of participation of the psychologists who can handle the problem of motivation scientifically (Bogue, 1967). Another reason for the absence of motivational studies in fertility is the difficult nature of the problem itself. Recently some new techniques for scale construction for any psychological measurement

have been suggested. But there has been very few attempts to apply these techniques to the measurement of motivations particularly related to fertility.

Centers and Blumberg (1954) tried to study motives operating behind procreation, but their results were ambiguous. Rabin and Green (1968) suggested, on the basis of sentence completion technique, the following motivational categories viz., altruistic, fatalistic, narcissistic and instrumental related to desire for children. Sorcar and Mia (1982) in a study on acceptance of family planning observed that family planning acceptors have a tendency to differ in terms of affection, economic help, preservation of family heritage and old age security. Fogue (1967) suggested that the following motives may be operating behind fertility, (1) health, (2) economic, (3) family welfare, (4) community and national welfare, (5) marriage adjustment, (6) personality needs, (7) ethical and cultural needs and (8) dislike for contraception.

Bogues' list of motives seems to be most exhaustive and relevant to our culture. Bogue has identified both profertility and antifertility elements in his proposed motivational categories and it is suggested that profertility elements in these motives encourage larger family size goals and antifertility elements smaller family size goals and lower fertility. But there has been no study in this country to examine these motives empirically.

The present study is an attempt to investigate how far health, economic, family welfare and ethical-cultural motivations, as suggested by Bogue, can discriminate women with higher fertility from those with lower fertility.

Objectives

The major aims of the study were to:

1. examine whether women with higher fertility differ from those with lower fertility in terms of motives.
2. examine whether women with higher family size goals (i.e desiring more children in future) differ from those with lower family-size goals in terms of motives.
3. find out the demographic and socio-economic variables related to pro and antifertility motives.

METHOD AND PROCEDURE

Sample

One hundred and sixty-six women of reproductive age were randomly selected from different residential areas of Dhaka city. All of them were married and currently living with their husbands. The age of the women ranged from 14 to 49 years, the average being 31 years. The respondents were interviewed at their homes by trained female interviewers—all of whom were students of the department of Psychology, Dhaka University.

Instruments

Relevant data were collected by using a standardized schedule consisting of two parts: one part contained the socio-demographic information of the respondent and the other part contained the motivation scale.

The motivation scale consisted of 38 Likert format items sub divided into 4 sub-scales each concerned with a specific motive or theme. The motives measured in the sub-scales are:

- 1) Family welfare, (2) Health, (3) Economic, (4) Ethical and cultural.

All the sub-scales consisted of both antifertility and profertility items and could be answered as strongly agree, agree, disagree and strongly disagree. The antifertility items were scored between 4 (strongly agree) and 1 (strongly disagree). The profertility items were scored in a reverse manner. The responses to all items of a sub-scale were added together to give a total score for that sub-scale. The scoring system was such that higher scores indicated stronger antifertility motive and lower scores indicated profertility motive. The motivation sub scales have been presented below:

1. Family Welfare Motive Sub-Scale

This scale consisted of 10 items concerned with family welfare. Four items contained antifertility and 6 contained profertility themes: Antifertility items referred to happiness of the family, peace of the family balanced personality growth of children and tendency to avoid economic and social troubles associated with too many children. Profertility items, on the other hand, referred to utilization of children for domestic activities, and exercising power and influence on the society through large number of children. Scores of all ten

items were added to give a summation score for the family welfare motive. Scores in this sub scale ranged from 10 to 40.

2. Health Motive Sub-Scale

This sub scale consisted of 10 items, half of the items contained antifertility and half contained profertility health items. Antifertility items referred to deterioration of health owing to large number of child birth, malnutrition of children of large family, better health care for small number of children, use of family planning methods as a legal means to protection of mothers, health. Profertility items included such themes as deterioration of health due to contraception, giving maximum number of child birth is good for health, and child mortality. Scores on this scale ranged from 10 to 40.

3. Economic Motive Sub-Scale

This sub-scale consisted of six profertility and three antifertility items. The antifertility items referred to themes like, economy in family expenditure, provision of food and education for the children, sub division and fragmentation of land etc, Profertility items contained themes like greater income to family through childrens earnings, economic support from children, old age security, preservation of family property and heritage etc. Endorsement of these themes would lead to larger family size goals and higher parity. Scores on this sub-scale ranged from 9 to 36, higher scores indicating stronger antifertility motivation.

4. Ethical and Cultural Motive Sub-Scale

This sub scale consisted of seven profertility items and 2 antifertility items. Profertility items referred to themes like, "God will feed as many mouths as He brings to earth", dependence on God for number of children contraception is a kind of killing a child, large number of children helps learn good discipline and morality preference for boys to girls, etc. Antifertility items referred to themes like equal preference for boys and girls, and small number of children is an aid to give adequate opportunities to children to grow up properly. The same scoring system was followed for the items of this sub scale as in other sub scales. Scores of this sub scale ranged from 9 to 36.

All the scales were standardized. In the process of standardizing the scales, all items were distributed to 15 teachers of psychology department of Dhaka

University. They were instructed to judge whether the content of the items were relevant to the particular motive. The construct validity of the scales was ensured by taking the items which had high inter-judge agreement. Items having agreements lower than 60 percent were omitted. Reliability of the sub-scales, estimated by split half method, on a sample of 20 individuals, ranged from .67 to .80.

RESULTS

Motivation and Family Size Goals

In our theoretical frame work of profertility and antifertility motives, it was implicit that women with higher motivation scores would be inclined toward antifertility behaviour and would tend to have smaller family size goals. In other words, women with higher family welfare, health, economic and cultural motivations would desire less number of children than those scoring lower on these motives. This assumption was tested by Chi square test. All women were categorized into two groups—women having larger family size goals (desiring more than threee children) another having smaller family size goals (desiring less than three children) Motivation scores were dichotomised in the median. The resulrs of this analysis showed that there is a significant correlation between moaivation scores and desired numbe of children. The chi square values between the motives and family size goals are as follows: Family welfare motive 10.61, df 3, p <.05, Health 13.08, df 3, p <.01, Economic motive 9.74,df 3, p <.05, Ethical—cultural 16.41, df 3, p <.001.

Thus it is evident that women scoring high on these motivations desire smaller number of children.

Motivation and Parity

In order to examine whether women with higher and lower parity differ in terms of motivations, their scores on all subscales were compared against parity i. e. number of living children. Since age is correlated with parity, a 2x2 analysis of variance for motivation scores was computed for two levels of parity and two levels of age. Women were divided into two groups : one group having less than three children and another group having three or more children. Similarly, they were divided into two groups by age levels; those aged 29 years and below and those aged 30 years and above. The results of the analysis of variance is presented in Table 1.

children. Similarly, they were divided into two groups by age levels: those aged 29 years and below and those aged 30 years and above. The results of the analysis of variance is presented in Table 1.

Table 1
F Ratios between motivation scores parity and age levels

Motivation	Levels parity(A)	Age Levels (B)	Interaction
Family welfare	18.68***	6.87*	2.94
Health	7.11**	1.81	12.29***
Economic	13.96***	5.22*	0.31
Ethical - cultural	19.91***	5.91*	1.27

df=1, 163

***p<.001, **p<.01 and *p<.05 levels

Analysis of motivation scores by levels of parity and age showed that mean motivation sub-scales were significantly different for different levels of parity. Mean motivation scores were found to be higher at lower levels of parity suggesting an inverse relationship between the two variables. A similar relationship was observed between age and motivation, except in case of health motive on which there was a significant interaction effect of age and parity.

Motivation and Contraception

All women were asked about their practice of contraception; and were categorized as ever and never users of contraception. Association between motivation scores and use of contraception at two age levels (29 years and 30 years and above) was measured by Chi square technique. Chi square values show that none of the motives except ethical and cultural are significantly associated with use of contraception.

However, high ethical and cultural motive was found to be positively associated with acceptance of contraception in the younger age group (Chi square =4.30, df, p<.05).

It is evident from the data that women are reluctant to use contraception even when they have high antifertility motivation and desire for small family

size. Probably there are some social and situational barriers which prevent them from using contraception. It is further suggested that these barriers can be overcome only by those who are relatively younger and hold high ethical and cultural antifertility motivations. It is observed that women scoring high on four motives differ significantly in terms of parity from those scoring low on motivations.

Demographic Correlates of Motivation

Age

Analysis of variance of motivation scores by age levels show that motivation scores are significantly influenced by age levels. Women at lower age levels have higher antifertility motivations. This is true for all types of motives except health motive where age has no significant effect (Table 1). It is evident from the study that younger women in general, have stronger antifertility motivations compared to older women.

Education

In order to examine whether differences in levels of education produce any significant difference in motivation, an analysis of variance of motivation scores was computed for three levels of education. It was observed that cultural and family welfare motivations are significantly affected by education, but health and economic motivations are not (Table 2).

Table 2
Mean motivation scores and F. Ratios among different levels of education

Motivations	Levels of education			F
	Below SSC (N = 26)	SSC to below Graduate and above graduate (N = 66)	Graduate and above (N = 74)	
Family welfare	30.62	33.61	33.05	3.86*
Health.	30.20	31.10	32.05	2.03
Economic	27.54	29.16	29.60	2.99
Ethical and				
Cultural	27.12	30.13	29.92	27.24**

*p < .05, **p < .001 level, df 2, 165.

Income

Motivation scores on each of the four sub-scales were examined against four income groups e.g. below Tk. 1000 per month, Tk. 1001-3000, Tk. 3001-5000 and Tk. 5001 and above. Analysis of variance of motivation scores by income groups did not show any significant variations in motivation according to income levels except in case of family welfare and economic motive. Family welfare motive was found to be influenced by levels of income-people in the higher categories of income had higher family welfare motivation scores. (Table 3). Similar was the case with economic motive, women in the higher economic groups had stronger economic motive.

Table 3**Summary Table of Analysis of Variance Results for Motivation Scores by Income Groups.**

Motives	Income groups df = 3	Ms between groups	Ms within groups df = 162	F
Family welfare	3273.66	84.19	38.88***	
Health	25.02	16.24	1.54	
Economic	42.74	12.77	3.35*	
Ethical-cultural	65.21	28.07	2.32	

*** p. < .001. *p < .05

Discussion and Conclusion

The study showed that economic, health, family welfare and ethical-cultural motivations played significant roles in determining fertility behaviour of women. Women scoring high on these motives endorsed antifertility themes, had smaller family size goals and actually had smaller number of children. Profertility elements in these motives have been found to be associated with larger family size goals and larger number of children.

An examination of mean motivation scores at different levels of parity revealed that mean motivation scores on all sub-scales were higher at lower levels of parity, thus suggesting an inverse relationship between the two variables. A similar relationship was also observed between age and motivation. Women in

the younger age group had stronger antifertility motives except health, where there was a significant interaction effect between age and parity. It is possible that younger women have been more exposed to and influenced by mass media campagins conducted by the government where as the older women have already reached a desired family-size and have a traditional set of values and beliefs which are less susceptible to change by communication media.

Stronger health motive was observed in younger women and consequently they had smaller number of children. But older women with larger number of children also showed strong health motive. It may be suggested that in the younger ages women having strong health motive tend to limit fertility in order to preserve their own and childrens health, but in the older ages, ill health coupled with large number of child-births make them more sensitized to health needs.

Analysis of fertility regulating behaviours by levels of motivation showed that none of the motives except ethical and cultural one had significant association with use of contraceptive methods. But it is interesting to note that ethical and cultural motivation plays a decisive role in the use of contraception. It was observed that women scoring high on ethical and cultural motives tend to accept contraception even at a lower age, but in the higher age groups (30 years and above) this motive was not associated with contraception. This may be explained by the fact that after the age of 30 years, most women have already achieved a large family and use of contraception is meaning less for them. It may be further argued that there are strong social and cultural barriers in our country which prevent women from using contraception even when they have strong antifertility motives, and these barriers can only be overcome by younger women who hold strong antifertility ethical and cultural norms.

It has been observed that education is positively correlated with antifertility motivation. Women with higher education are found to have higher ethical and cultural motives which, in turn, motivate them to accept contraception even with fewer number of children.

The profertility elements in health, family welfare, economic, and ethical and cultural motives are, of course, rooted in Bengali culture (Maloney et al , 1980). These motivations may be modified through providing formal education to all women upto a certain level and through intensive motivation-

communication campaigns emphasising the antifertility themes. Another strategy for reducing the profertility elements in these motives may be to introduce modernization processes in the society through formation of women's organizations, mothers' clubs, etc, and creating opportunities of participation of women in development activities of the country. All of these processes may encourage development of stronger antifertility motivations which in turn will reduce fertility in Bangladeshi women.

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bars that in both orientations fill the area of the retina. They claim that their result indicates that the McCollough effect is not dependent on the formation of negative afterimages.

We have now to see whether the second type of localized effect is applicable to the McCollough effect. This point has been given considerable attention by researchers who are involved in investigating the phenomenon. Their aim is to determine whether the aftereffect is confined to the specific area of the retina exposed to adaptation gratings. March (1969) produced a classical McCollough effect and found that the aftereffect colour appears to extend over the entire surface of the test patterns even when the angular size of the pattern was double that which has been used during adaptation. It is possible that small eye movements may have generated a shallow colour gradient here, which might have caused the colour aftereffect to appear to spread beyond the adapted area. Pattern with some internal boundaries or a complex pattern having a few matrices may help to limit the spread.

In the present experiment a matrix patterns were employed to build up opposite colour aftereffects simultaneously on adjacent area of the retina.

METHOD

Subjects: Volunteer subjects were sixteen male and female students at University College, Swansea. None of them had previously been exposed to the McCollough effect and all had normal vision on the Ishihara test.

Apparatus and Materials

The two adaptation stimuli contained eight separate grating patterns in a 4×2 matrix (Fig. 1). The matrices contained all possible combinations of the four colours i. e. red, green, blue and yellow. Each type of grating was represented once in both horizontal and vertical orientations. The two stimulus patterns were projected alternately into the viewing screen via two projectors. Under this colour and orientation arrangement eight possible pairs were exposed during adaptation. These are (a) The red horizontal was interchanged with the vertical yellow, (b) The green vertical was interchanged with the red horizontal (c) The blue horizontal was interchanged with the vertical yellow, (d) The yellow vertical was interchanged with the blue horizontal, (e) The blue vertical was interchanged with yellow horizontal, (f) The yellow horizontal was interchanged with green horizontal, (h) The green horizontal was interchanged with red vertical.

The projected pattern subtended 14.3° horizontally. The frequency was 1.86 cycles/deg. The adapting patterns were photographed on colour film giving saturations considerably lower than colour filters usually employed

PROCEDURE

The subject sat 2.4 meter from the viewing screen. With his head straight and fixated on the fixation point (a) located at the centre on the slide or (b) at the centre of a particular pattern, for a period of ten minutes; while the two patterns were interchanged every ten seconds. Following adaptation subjects were tested immediately with the same matrix pattern but without any colour filter i. e. achromatically. They were asked to report the observed colour for each pattern in terms of red, green, blue, yellow, achromatic or combinations of these when the investigator called out the matrix number A, B, C, etc. During testing the subjects maintained fixation at the same point as was used during adaptation. They were also tested under conditions when fixation was not maintained during testing.

RESULTS AND DISCUSSION

Different aftereffects were produced simultaneously on the adjacent retinal regions, for example, with a fixation point in the center of a neutral test pattern horizontal bar in the upper left matrix looked green while the horizontal lines in the lower left look greenish also upper right vertical matrix appear blue while the lower left vertical matrix appeared yellow. Similar results were obtained when the subject fixated at the center of a matrix (fixation point 'b'). The results are displayed in table 1.

Table 1

The Number of Subjects Reporting Colour Aftereffects in Different Matrices.

(Total possible No. = 32)

i) Subject fixating at the centre of the overall test pattern
(Fixation point 'a')

After-image colour	Red	Adapting Colour			Yellow
		Green	Blue		
Red	0	5	3		4
Green	13	2	0		0
Blue	1	1	2		1
Yellow	2	3	9		1

(ii) Subject fixating at the centre of a particular pattern in the pattern (Fixation point 'b')

After-image colour	Red	Adapting Green	Colour Blue	Yellow
Red	0	7	0	1
Green	8	1	0	2
Blue	0	0	1	1
Yellow	5	5	9	5

The colour aftereffect disappeared when the fixation was moved just off the area about 4 degree to the left or to the right. The colour effect reappeared when fixation was moved to the original position employed during adaptation. Under such arrangement the test gratings overlap the retinal area originally exposed by the colour gratings. The results are consistent with those of previous investigations (Harries 1969, Stromeier 1972). It appeared that the orientation contingent chromatic aftereffect reported by McCollough (1965) is highly localized (area specific) i. e. the effect is confined only to the stimulated area of the retina exposed to colour gratings. Since different aftereffect were produced simultaneously on adjacent retinal regions, the aftereffects cannot, therefore be attributed to edge detectors with wide receptive field suggested by McCollough. Thus a dipole model which receives inputs from two concentric areas of the retina was found to be more consistent with the present data.

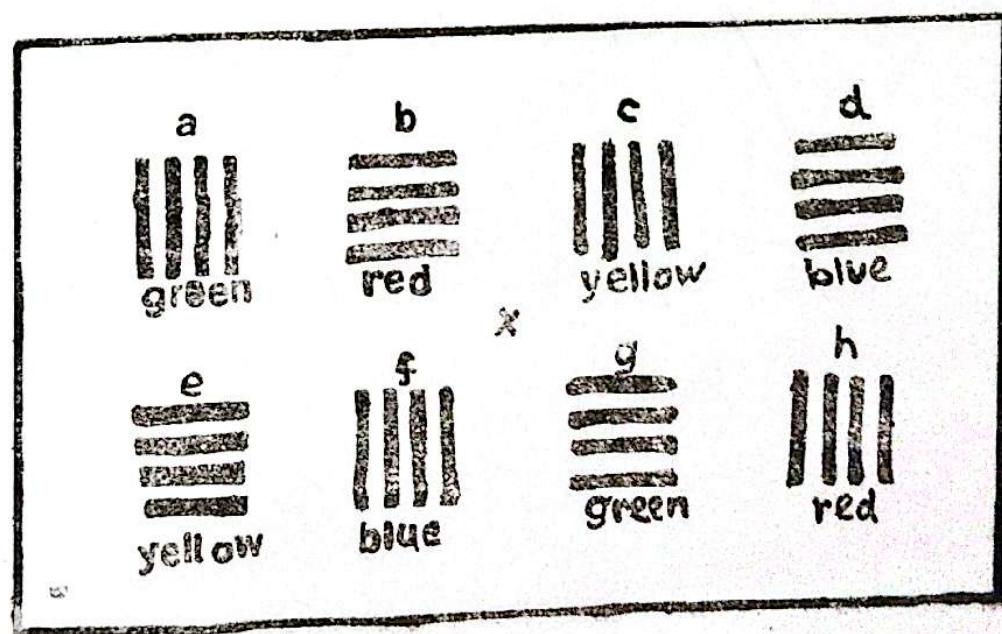
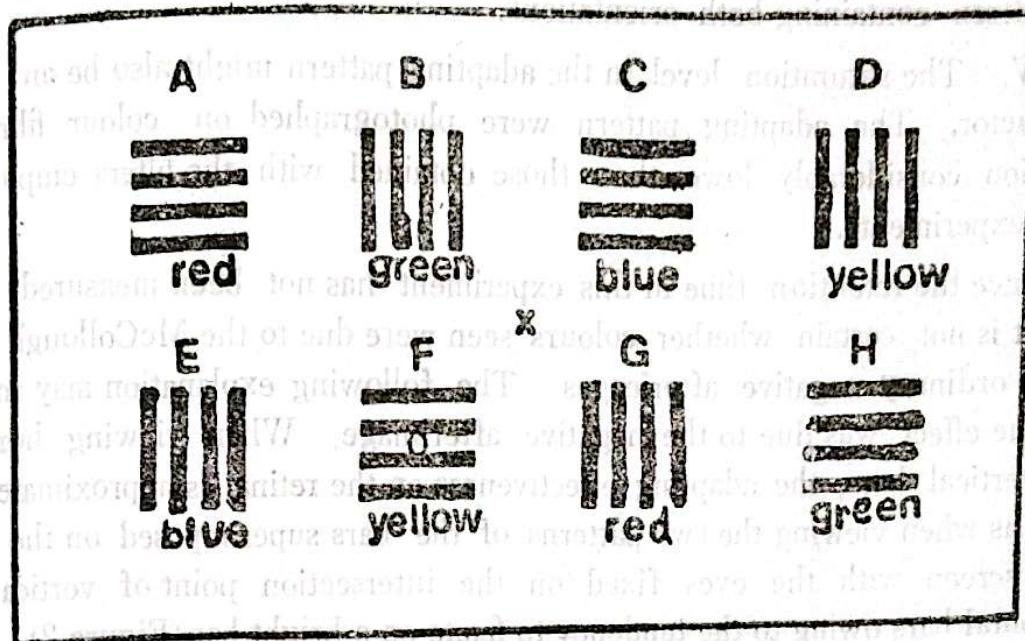
The overall responses in this experiment appear to be smaller. The following reasons might have been considered in order to account for the difficulty of in obtaining under the conditions of the present experiment.

1. Possibly precise fixation was not maintained by all subjects. Slight variation in head position caused remarkable differences while visually exploring this complex pattern during adaptation. It is advisable that a chin rest should be used to ensure that the same retinal location continues to be stimulated.

II The classical McCollough Effect were produced by employing patterns of gratings. In this experiment each matrix of the pattern contained only 3 cycles. It might be questioned whether a pattern of 3 cycles could be called a grating. Mahmud (1977, 1983) reported that sensitivity in the test pattern increased with the increase of the number of bars.

Figure 1. 4×2 matrix pattern employed to investigate whether two effects are produced independently in two different parts of the retina. Colour of lines indicated in the figure.

Fixation point A located at the center of the alidea shown as 'x' and fixation point 'B' located at the center of the pattern 'F'

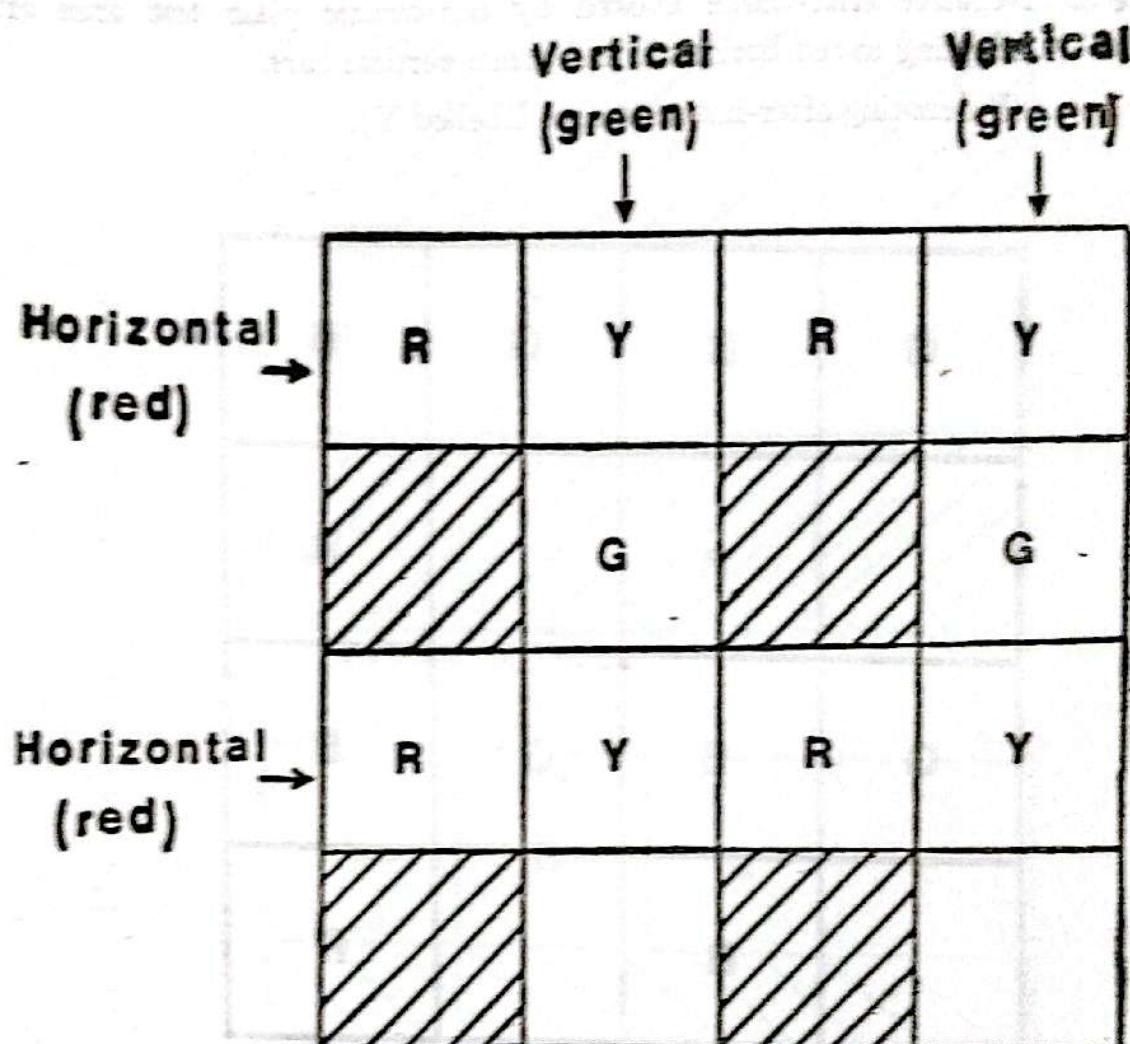


III Colour effects in a test pattern containing bars of a single orientation appear more difficult to obtain than under conditions where test grating contain both orientation side by side. Dale et al. (1976) have tested the simultaneous viewing effect by comparing test pattern comparing test patterns containing single and double orientations and found that only 80 percent of their subjects reported colour in single orientation whereas all subjects reported a colour in a test pattern containing both orientations.

IV. The saturation level in the adapting pattern might also be an important factor. The adapting pattern were photographed on colour film giving saturation considerably lower than those obtained with the filters employed in other experiments.

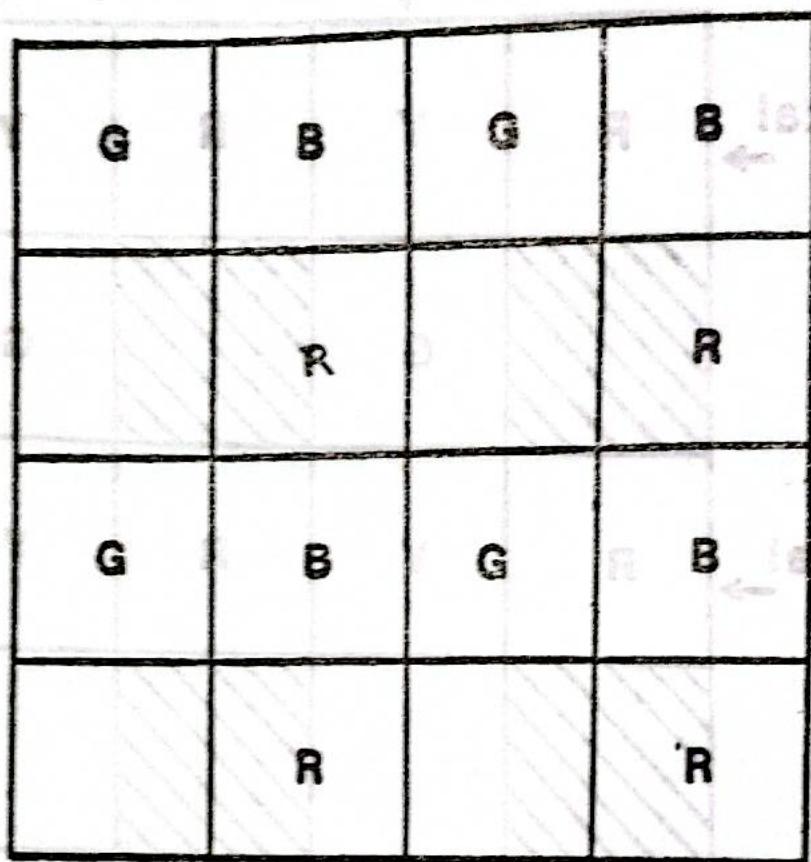
Since the retention time in this experiment has not been measured, therefore, it is not certain whether colours seen were due to the McCollough effect or the ordinary negative afterimages. The following explanation may indicate that the effect was due to the negative afterimage. When viewing horizontal and vertical bars, the adapting effectiveness on the retina is approximately the same as when viewing the two patterns of the bars superimposed on the projection screen with the eyes fixed on the intersection point of vertical and horizontal bars owing to the tendency to fixate on a bright bar (Figure 2).

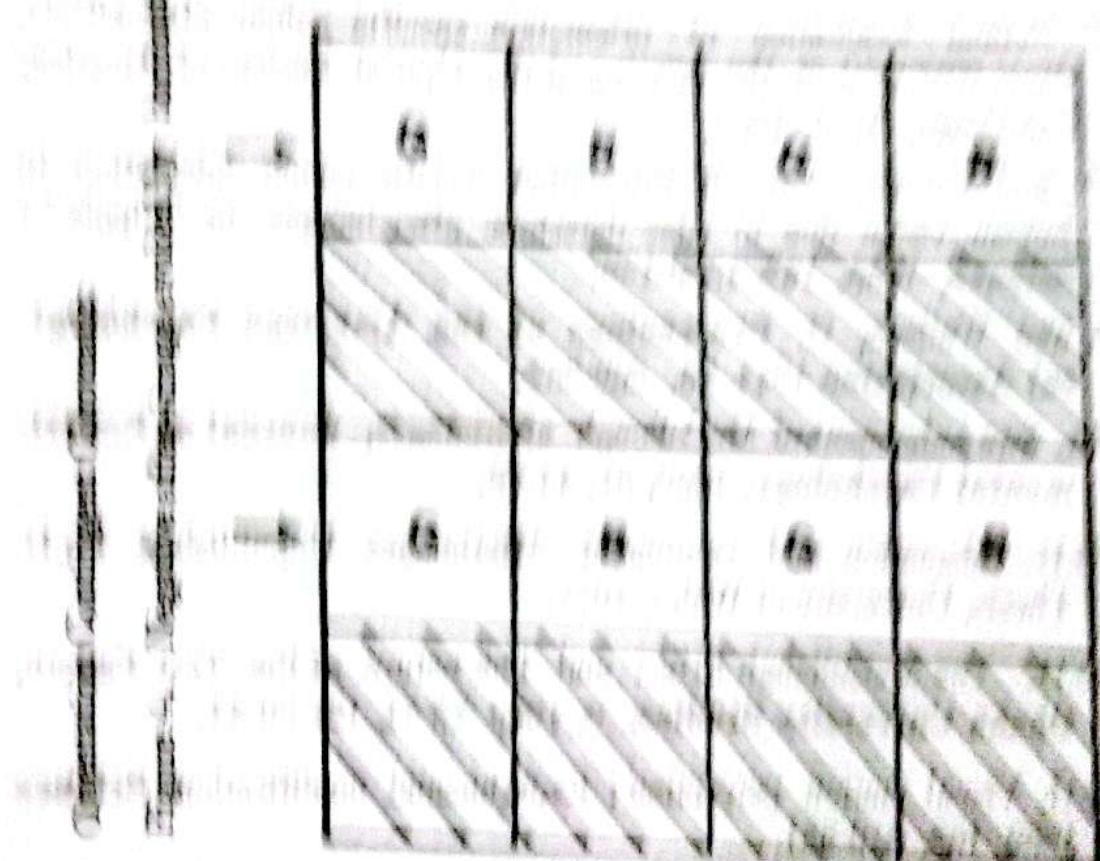
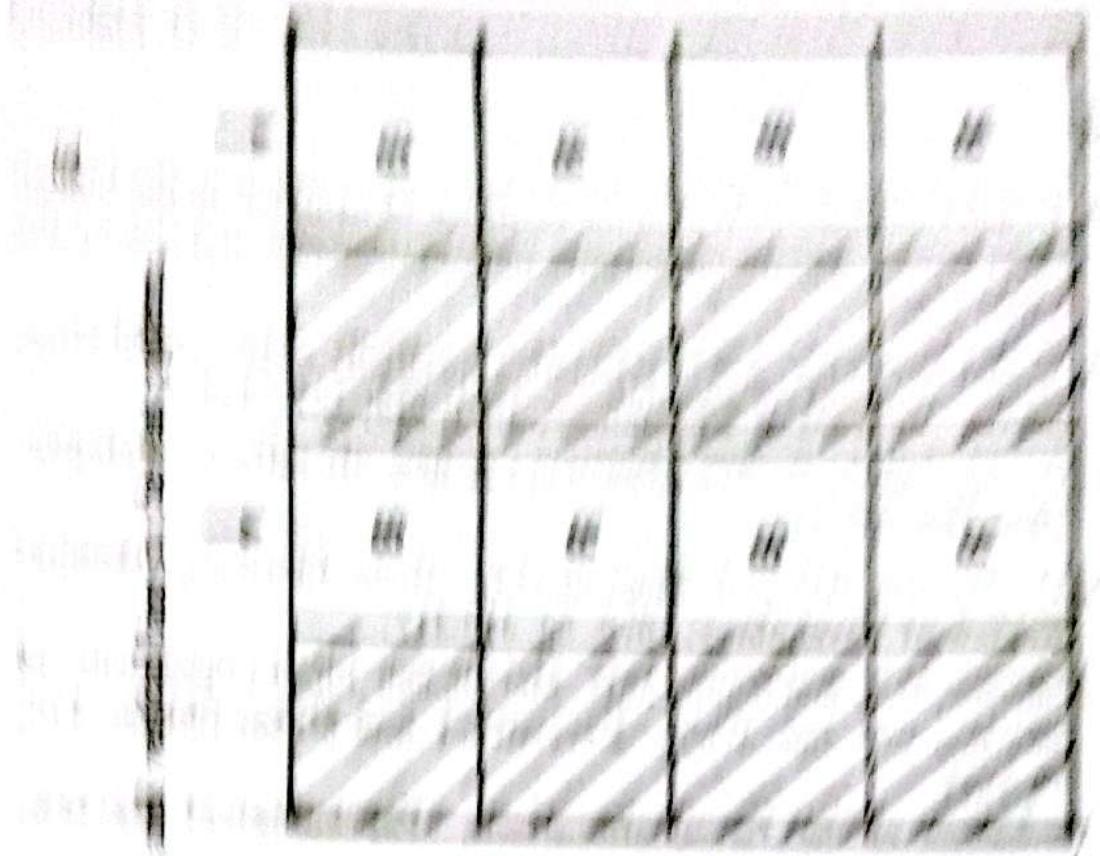
Figure 2. Part of the image from superimposing horizontal red (R) and vertical green (G). Yellow (Y) formed from mixture of red and green.



The negative aftereffects that would then be obtained when looking at a neutral test area are shown in Figure 3 and 4.

Figure 3. Negative after-image evoked by achromatic plain test area after adapting to red horizontal and green vertical bars.
(B denoting after-image to area labelled Y).





the last panel should apparently also be unshaded unless it is a different
bottom line than the previous one

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Использование

UNIVERSITY EDUCATION AND CHANGE OF VALUES

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ABSTRACT

The present study aimed at measuring the effect of University education on some categories of values of the students studying in Rajshahi University. These were the theoretical, economic, aesthetic, social, political and religious. A random sample of 137 students of Rajshahi University representing all the Faculties was selected as the respondents of the present study. Of the total sample 61 (30 male and 31 female) respondents were the students of the First Year Honours Class and 65 (30 male and 35 female) respondents were the students of the Third Year Honours Class. The Third Year Honours student had been studying in the university for more than five years in place of the usual three years. A Bengali version of the questionnaire, the 'Study of values' by Allport, Vernon and Lindzey (1960) was used for measuring values on six categories. Standard procedure for administering and scoring was followed.

Results indicated significant difference in aesthetic value only between the new and the old female students. In cases of other five categories of values, no significant difference was found between the new and old students. In the theoretical and aesthetic values, however, significant difference was found between the male and female students,

INTRODUCTION

Perhaps nobody will deny that a major part of our activities are mainly guided by the values that we maintain. Largely due to this reason, psychologists attach a lot of importance to the study of values. Degradation of social and moral values creates social problems and crimes like corruption, rape, murder, looting, molestation of women and many others. Such serious crimes have become a regular feature in Bangladesh now-a-days. Our newspapers report these incidents nearly every day and their editorials and feature columns frequently point out that these are the result of a general degradation of values which were held

by our older generation. They also frequently add that proper education is one of the effective means to save the country from this degradation of values and its consequences.

The columnists also agree that education is one of the important means that can contribute a lot in changing the values of the people of the country. Education, however, is a very broad concept and its impact on the development and change in social, moral and other values is a big question. In the present investigation, the modest aim of finding the effect of university education, if any, on some of the common values of the Honours level students was set up in view of the broadness of the term 'education'.

In the past, the study of values by Allport, Vernon and Lindzey had been used in a wide variety of psychological research. Arsenian, S. (1943); Jacob, P. E. (1957), Spoerl, D. (1952), Whitley, P. L. (1938) used it for measuring the changes in average value profiles during college life. It has also been used for measuring changes in individual value profiles over 15 and 20 year intervals (Bender, 1958a, 1958b, Kelly, 1955). Newcomb's (1943) study had a purpose similar to ours. He used it for determining the changes in values of college students throughout their period of study under two different styles of education.

As we see above, the A-V-L Study of Values has been widely used in research work. Due to this reason, it was decided to use the A-V-L Study of Values as the measuring instrument in this study.

The longest course in the university is the Honours course and students offering honours normally have to stay for at least three years. The likelihood of any change of values is more in the Honours course than in any other.

In view of this consideration, as stated earlier, the aim of the present study was to compare the values held by newly admitted students with that of the final year Honours students and to find whether the difference was significant or not.

METHOD

The sample of the present study consisted of 137 students of which 65 students were male and 72 students were female. They were randomly selected from different departments of Rajshahi University. Of the 65 male students, 33 were newly admitted in the 1st year Honours course and the remaining 32 were

students of final year Honours class studying in this university for over four years. In the group of 72 female students, 35 were newly admitted and the remaining 37 were final year Honours students (Table 1 below).

Table 1.

Distribution of subjects and groups.

	Male	Female	Total
Students of the 1st yr. Honours. (New). Age 17 to 20 yrs.	33	35	68
Students of 3rd yr. Honours. (Old). Age 20 to 24 yrs.	32	37	69
Total	65	72	137

Allport, Vernon and Lindzey's 'Study of Values'

The 'Study of Values' was originally prepared by G. W. Allport and P. E. Vernon in 1931. It then underwent two revisions : one in 1951 and the other in 1960. In both these latter revisions, G. Lindzey was associated with G. W. Allport and P. E. Vernon. In the present study, the 1960 edition has been used. It measures the six categories of theoretical, economic, aesthetic, social, political and religious values.

Description of the categories :

- (1) The theoretical : A man having high theoretical value is mainly interested in the discovery of truth. His aim in life is to order and systematize knowledge.
- (2) The economic : The centre of attraction of economic man is the usefulness of things or objects. He runs after objects which are useful to him.
- (3) The aesthetic : The aesthetic man finds his highest value in form and harmony. He is mainly interested in things which are coherently and systematically presented.
- (4) The social : A man of high value for this type is characterized by love for people. He is kind, sympathetic and unselfish.
- (5) The political : Interest of a political man centres around primarily in power although not necessarily within the narrow field of politics.

(6) The religious : The religious man puts his highest value on unity with the cosmos as a whole. His mental structure is permanently directed to the creation of highest and absolutely satisfying experience.

Procedure :

The questionnaire was administered daily on groups of 15 to 20 respondents with the help of some students of the department. The respondents were told to follow the instructions printed on the front page. Clarification of the printed instructions was made for those who could not understand the instructions. The method of scoring outlined in the English questionnaire was followed.

RESULTS

The total number of respondents in the study was 137 male and female students studying in Rajshahi University. Answer sheets of 11 respondents could not be taken into account due to the reason that some of them had responded to more alternatives than necessary and some of the answers were incomplete. Table 2 shows Mean and Standard deviation and Table 3, shows the differences between group mean and their significance found by t-test.

Religion	Religious			Non Religious			Secular			Non Secular		
	Mean	SD	SE	Mean	SD	SE	Mean	SD	SE	Mean	SD	SE
Christian	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38
Islam	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88	38.88
Hindu	31.88	31.88	31.88	31.88	31.88	31.88	31.88	31.88	31.88	31.88	31.88	31.88
Buddhist	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38
Others	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38
Total	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38

Table 2. Mean and SD of the Four Groups of Subjects on the Six Categories of Values.

Groups	Categories of values											
	Theoretical		Economic		Aesthetic		Social		Political		Religious	
Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Old male students	46.57	6.57	39.90	5.78	31.10	8.16	44.33	4.48	42.27	6.23	35.83	9.87
Old female students	41.71	5.78	41.51	6.76	35.03	7.44	46.20	4.61	41.66	5.20	33.88	8.31
New male students	44.93	5.53	40.06	3.67	30.80	7.33	43.60	6.10	41.46	5.37	38.13	8.81
New female students	41.80	5.95	38.87	7.10	38.81	5.55	45.80	5.40	42.38	5.27	35.32	5.78

Table 3. Mean Differences and the Significance of the Differences

Pairs of groups	df	Categories of Values										
		Theoretical		Economic		Aesthetic		Social		Political		
		Diff.	Sig.	Diff.	Sig.	Diff.	Sig.	Diff.	Sig.	Diff.	Sig.	
Old male minus New male.	63	1.64	NS	-0.16	NS	0.30	NS	0.73	NS	0.81	NS	-2.30 NS
Old female minus New female.	70	-0.09	NS	2.64	NS	-3.78	p<.02	0.40	NS	-0.72	NS	-1.44 NS
Old male minus Old female.	67	4.86	p<.01	-1.61	NS	-3.93	p=.05	-1.87	NS	0.61	NS	1.95 NS
New male minus New female.	68	3.13	p<.05	1.19	NS	-8.01	p<.01	-2.20	NS	-0.92	NS	2.81 NS

DISCUSSION

The aim of the present study was to investigate the effect of university education on theoretical economic, aesthetic, social, political and religious values of a random sample of Rajshahi University students. Ideally, the study should have been longitudinal with the same groups of students under two conditions. But, as a preliminary study, a cross-sectional approach was adopted. Two groups of subjects, one group consisting of newly admitted students to the 1st yr. Honours class and the other, an old group of students in the final year Honours class and continuing their study for over four years.

Since separate analyses were needed for the six categories of values, analysis of variance was not done. Instead, group means and standard deviations were computed and t-test was done for the few larger differences. One or two t-ratios with low differences showed that these are not significantly different. So, further calculations were not done for these low differences.

Contrary to our expectation, only one difference between mean scores of old female and new female groups for aesthetic values was significant at a $p < .02$ ($df = 70$). In other words, the difference was highly significant. All other differences between the old and new groups were not statistically significant. One of the probable reasons for such result might be that in our present educational system, students become more concerned with getting more marks and higher grades in the examination and neglect the development of moral and other values. Non-comparability of the groups might be another reason, which, as noted earlier, would have been averted by a longitudinal approach. Still another reason could be that values are formed more or less permanently before the students enter the university and in order to change the values, special programmes for the purpose are necessary.

Besides the only one significant difference mentioned above, Table 3 shows that there are four other statistically significant differences unrelated to the aim of the study, but nevertheless interesting and conforming to common expectations. These are the differences between old male and old female groups in the theoretical and aesthetic categories ($p < .01$ for both at a $df = 68$), and differences between the new male and new female groups in the same categories ($p < .05$ and $< .01$ respectively at a $df = 67$). In the theoretical category, mean score of the male students were higher than the mean scores of the female students were for both the old and new students ($p < .01$ and $< .05$ for $df = 68$ and 67 respectively).

On the other hand, in the aesthetic category of values, the female students scored higher than the male students in both the old and new groups ($p = <.05$ and $=p <.01$ with $df = 67$ and 68 respectively). This result agrees with our common expectations that male students are more inclined towards theoretical matters whereas female students concern themselves more with aesthetic pursuits.

Apparently though, our results show that university education has little effect on the changes of values, one must be cautious in accepting it at face value. Only an extensive longitudinal study based on samples from all the four general universities of Bangladesh can give a more complete picture.

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A STUDY ON ACHIEVEMENT AND ITS CORRELATES OF THE DIPLOMA-IN-EDUCATION STUDENTS AT THE INSTITUTE OF EDUCATION AND RESEARCH, DHAKA UNIVERSITY

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ABSTRACT

The purpose of the study was to find out the relationship of certain variables with the Diploma-in-Education results. Variables identified in the study were age, teaching experience, practice teaching, result, theory result and MTAT scores. The sample consisted of 70 students, randomly selected from the total of 156 students enrolled for the Diploma-in-Education programme for session 1984-85 at the I.E.R., Dhaka University. Findings indicate that there is no statistically significant relationship between age, teaching experience and MTAT scores and the diploma-in-Education results.

INTRODUCTION

It is a proven fact that sound academic achievement coupled with aptitude and attitude enables a person to fulfill the requirements of the vocation in which he is involved. Thus a person having high academic achievement but a negative attitude towards the vocation may not be successful on the job. Teaching being a vital nation building process needs suitable teachers. It is essential for a successful teacher to have the following characteristics he should be academically well trained in the subjects he teaches, he should have sound professional training in how to teach his subjects and should possess a deep sense of professional honour (Govt. of Pakistan, 1960). This study tried to find out the relationship of factors like 1 years of teaching experience, age and attitude with Diploma in Education results of the students of the Institute of Education and Research, University of Dhaka.

Objectives of the Study

The objectives of the study were

1 to determine the relationship between

- (a) Dip-in-Ed. results and teaching experience.
- (b) Dip-in Ed. results and Practice Teaching result.
- (c) Dip-in-Ed. result and age of the students.
- (d) Practice Teaching results and Teaching Experience.

11. to determine the relationship between

- (a) MTAI scores and Dip in Ed. results.
- (b) MTAI scores and Teaching experience.
- (c) MTAI scores and Age of the students.

METHODOLOGY

Sample : The sample of the study consisted of 70 students out of 156 students enrolled for the Dip-in-Ed. Programme for session 1984-85 in the Institute of Education and Research (IER), University of Dhaka. The sample of the study was selected randomly from the Master List of enrolled students of IER, University of Dhaka.

Variables : The variables identified in the study were age, teaching experience, Practice Teaching results and MTAI, Theory results and MTAI scores.

Data gathering instrument : A translated and adapted version of the Minnesota Teacher Attitude Inventory (MTAI) was used to find out the attitude of the Dip-in-Ed. students towards Teaching profession (Khan, 1964).

Experimental Procedure : The Translated and adapted version of the Minnesota Teacher Attitude Inventory (MTAI) was administered to the sample of students after they had finished all courses including practice teaching. Other requisite information was obtained from the Student Records Office of the Institute.

Statistical Techniques Used :

The Pearson product Moment coefficient of correlation was used to determine the relationship between the variables. The significance of the correlation of the variables of this study were tested at .05 and .01 levels of significance (Arkin and Colton, 1964).

Presentation and Analysis of Data

The collected data are presented in the following tables: Analyses of data have been given after each of the tables.

Table I

Relationship between Teaching Experience and Dip-in-Ed. Result

Teaching Experience (in years)	No. of Students	First Class		Upper Second Class		Second Class		r
		No. of Students	%	Number	%	No. of Students	%	
0	19	5	26	12	63	2	11	-.24*
1-7	36	12	33	22	61	2	6	
8-30	15	Nil	—	11	73.3	4	26.7	
Total	70	17		45		8		

* Significant at .01 level of significance

Of the 70 students included in the sample, 17 obtained First Class, 44 obtained Upper Second Class and 9 obtained Second Class. As seen from the result, 19 students were without any teaching experience and of them 26% have secured a First Class, 63% Upper Second Class and 11% have secured Second Class. The 1-7 year of experience group seems to have done better, 33% have secured First Class, 61% have secured Upper Second Class and 6% have secured Second Class. There are no first classes in 8-30 years experience group. A person with 30 years of experience has secured Upper Second Class and one with 20 years experience has secured Second Class. The correlation was found to be 0.24. It is significant at .01 level of significance.

Table 2

Relationship between Practice Teaching Result and Years of Teaching Experience

Teaching Experience (in years)	No. of students	First Class		Upper Second Class		Second Class	
		No. of Students	%	No. of Students	%	No. of Students	%
0	19	6	32	12	63	1	5
1-7	36	14	39	21	58	12	34 +.0038
8-30	15	3	20	10	67	2	13
Total	70	23		43		4	

The 1-7 years experience group has achieved the best result i. e. 39% First Class. It is interesting to note that the no experience group has done better than the 8-30 years experience group. Only 20% of the long experienced group obtained a First Class whereas 32% of the no experienced group obtained First Class in practice Teaching. The correlation was found to be +.0038 and it was not significant.

Table 3

Relation Between Dip-in-Ed. result and Age

Age of the Student (in years)	No. of students	First Class		Upper Second Class		Second Class	
		In. No.	%	In. No.	%	In. No.	%
21-25	12	2	17	10	83	—	0
26-30	36	8	22	21	58	7	20
31-35	16	6	38	8	50	2	12 -.032
36-40	4	1	25	2	50	1	25
41-45	1	—	0	1	100	—	0
46-50	1	—	0	1	100	—	0
Total	70	17		43		10	

The age range happened to be from 21 to 50 years. This was recorded age and may not be authentic. As seen from table 3 majority of the students belong to the age group 26-30. The 31-35 age group has achieved the best result i.e. 38% First Class and 50% Second Class. Number of students of this group is 16. There are only 4 students belonging to age group 36-40. From them one has secured First Class, two have secured Upper Second Class and one has secured Second Class. There is only one student belonging to age group 41-45 and this student has secured Upper Second Class. There is only one student in 46-50 age group and this student has also secured Upper Second Class. The correlation was found to be-.032 which was not significant.

Table 4

Relationship between Age and Practice Teaching Result

Age (in years)	No. of Students	First Class		Upper Second Class		Second Class		r
		No.	%	No.	%	No.	%	
21-25	12	5	42	7	58	—	0	
26-30	36	14	39	18	50	—	11	
31-35	16	3	19	11	69	2	12	-.004
36-40	4	1	25	3	75	—	0	
41-45	1	—	—	1	100	—	—	
46-50	1	1	100	—	—	—	—	
Total	70	24	—	40	—	6	—	

As seen from Table 4 majority of students belong to the age group 26-30. But the students belonging to the age group 21-25 has done better, 42% have secured First class, and 50% have secured Upper Second Class. There are only 4 students belonging to age group 36-40, of them one has secured First Class and 3 have secured Upper Second Class. There is only one student belonging to age group 41-45 and this student has secured Upper Second Class. Only one student belongs to age group 46-50 and he has secured First Class in Practice Teaching. There was no correlation between age and practice teaching.

Table 5

Relationship between MTAI scores, Dip in Ed. Result, Teaching Experience and Age.

Variables	Dip in Ed. Result	Teaching Experience	Age
MTAI score	+.015	-0.1906	- .118

- (a) Relationship of the Dip in Ed. result with the MTAI scores was found to be +.015 and it was not significant.
- (b) Relationship of the teaching experience with the MTAI scores was also found to be non significant ($r=.19$).
- (c) Relationship of MTAI scores with age of students was .116 and it was not significant.

RESULTS AND DISCUSSION

It appears from the Table 1 that persons having less teaching experience have obtained better results in Diploma in Education. The reason may be that these younger students have better academic records in their past thus they achieve better results here too. Or it may be that teachers with long teaching experience have become conditioned to their own methods and thoughts and thus their performance is poor.

It was assumed that persons with longer teaching experience would be better in Practice Teaching compared to those with shorter or no experience. Data in Table 2 show that only 3 persons of the 8 to 30 years group have secured a First Class in Practice Teaching. It may be due to the fact that one type of classroom teaching habit has conditioned them to the methods they have been using and latest devices and techniques were not used by them during Practice Teaching. This must have lowered their grade in Practice Teaching. It was assumed that persons who had gathered experience age wise would achieve better results at the Dip in Ed. Exams. But as seen from Table 3 the performance of experienced Teachers was not good. Reason for this may be the conditioning effect of the traditional methods of teaching. It was assumed that persons who

have gathered experience with age would achieve better results Practice Teaching. Data in Table 4 give a different picture. Younger students achieved better results in Practice Teaching than the aged ones, this may be due to the older students' lack of adaptability to the newer methods and techniques of teaching.

The present study indicates that there is no statistically significant relationship between MTAI Scores, age, teaching experience and Dip in Ed. results of the respondents. This may be due to the fact that the sample consisted of a heterogeneous group of persons who differed not only in the above mentioned variables but also in employment status. The employed teachers needed a professional training for enhancement of qualifications, and the unemployed, persons needed a breathing space so that they may gain a professional degree after completing the course, or may get a better chance of finding lucrative employment other than teaching by staying in the capital city. Lack of diversified vocational channels and high rate of unemployment sometimes forces persons to accept jobs towards which they do not have a positive attitude. However, more work on the MTAI is needed if educators intend to use it as a diagnostic tool for entrance into training institutions for other purposes related to effective teaching.

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COMPUTER SIMULATION OF THE METHOD OF LIMITS AND
ABSOLUTE THRESHOLDS: A PRELIMINARY STUDY.

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&

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ABSTRACT

Absolute thresholds under a cumulative normal and linear psychometric function were studied by setting the computer to act as a subject and generate appropriate responses. Four stimulus series with unit step sizes from 5 to 9, 4 to 10, 3 to 11 and 2 to 12 were used in the simulation experiment. Two series of random numbers were generated by the computer to provide chance variations from trial to trial. The random numbers were found to deviate significantly from expected mean distribution when tested by chi-square. All the series of stimuli were presented in 100 blocks of 10 each and 1 block of 1000. SD of the distribution of terminal thresholds from trial to trial was found to increase with increasing number of stimulus levels in all the series. Mean threshold and SD did not show any systematic dependence on different series of random numbers. Lapses are mentioned and further studies suggested.

INTRODUCTION

Simulation is a very wide term involving the preparation of a model of a real situation and then conducting experiments on that model (Naylor et al., 1966). Computer simulation too, is quite broad in its scope. In the present study, however, a particular type of simulation in which the computer is set to behave like a subject in a psychological experiment and to generate appropriate responses, has been used. The generated responses, or in other words, the data are then analysed in the usual way but again, of course by the computer itself. Rose and his associates used this technique to study the properties of thresholds obtained by the staircase method (Rose et al., 1970).

The absolute threshold for any sense modality of a person is not a fixed stimulus level. It varies over an interval having a lower limit I_0 and an upper limit I_1 . The subject is never able to detect stimuli below the level I_0 , whereas he is always able to detect stimuli above the level I_1 . Between levels I_0 and I_1 , the subject sometimes succeeds and sometimes fails to detect the stimulus. Absolute threshold is defined as the point within the interval I_0 — I_1 , where the percentages of success and failure are equal. That is, fifty percent. The probability of detecting the stimulus decreases as the stimulus level approaches I_0 and becomes zero when it equals or goes below I_0 . On the other hand, the probability of detection increases as the stimulus level approaches I_1 , and it becomes unity when the stimulus level equals or exceeds I_1 .

When the probability of detection of a stimulus is plotted against the corresponding stimulus level in a psychological experiment, the data usually corresponds to a cumulative normal distribution function within the interval I_0 — I_1 . However, discovery of the all-or-none nature of nerve impulses led some theoreticians to propose that the psychometric function is linear, that is, the function takes on a value zero at or below a stimulus level I_0 and a value one at or above a stimulus level I_1 . In between I_0 and I_1 the value of the function rises linearly from zero to one (Stevens, Morgan and Volkmann, 1941).

Experimental evidences for the above model have been found for auditory stimuli but owing to the fluctuations in the sensitivity of the subject, the effect is obscured more often than not (Woodworth and Schlosberg, 1954).

In the present experiment, the method of limits was simulated on a micro-computer for studying the effect of the spread of the stimulus levels i.e. the I_0 - I_1 , interval on the absolute threshold estimate and its SD.

METHOD.

Four series of stimulus levels each with arithmetic mean 7 and step size 1 were used in the experiment. The levels were from 5 to 9 in the first, 4 to 10 in the second, 3 to 11 in the third and 2 to 12 in the fourth series. The first stimulus level was I_0 and the last stimulus level was I_1 for each of these series of stimuli. To minimize errors of habituation and anticipation in a human subject, the starting point of a stimulus series is varied from trial to trial. But

this was not necessary because the responses generated by the computer were guided solely by random numbers and errors of habituation and anticipation cannot occur in a computer unless it is intentionally introduced.

Stimulus levels I_0 , were always assigned a probability value 0. Similarly, stimulus levels I_1 , were always assigned a value equal to 1. Intermediate stimulus levels were assigned appropriate probability values according to both the cumulative normal and linear psychometric functions. In all, eight separate data files (four for each psychometric function) were created for feeding into the computer.

To run the computer as a subject it was assumed that within the interval I_0 - I_1 , the probability of detection of a stimulus by a subject in a real situation followed the probability value associated with that stimulus level according to both the cumulative normal and linear psychometric functions. On each trial a random number lying between 0 and 1 was generated by the computer and if the corresponding probability of response of the subject happened to be equal to or greater than the random number generated for that trial, a YES response (i.e. detection of the stimulus) was recorded by the computer. Otherwise, a No response was recorded.

Each series of stimuli was run separately in alternate ascending and descending order. The ascending series started with a stimulus level I_0 and the descending series started with I_1 . Obviously, the first responses for the ascending and descending series were NO and YES respectively. As soon as a response changed from NO to YES or vice-versa, the series was terminated and the average of the two consecutive stimulus levels containing the change was recorded as the terminal value.

The series of trials were run in blocks of 10 for 100 blocks and also in one block of 1000. This was repeated with two different sets of pseudo-random numbers consisting of four digits after the decimal point and of a value lying in the interval 0 to 1.

The pseudo-random numbers were generated from trial to trial by multiplicative congruential method (Naylor et. al., 1966). Three series of pseudo-random numbers for each of the two sets were classified into 10 class intervals and were tested for uniformity of distribution by a simple Chi-square test.

All the programs were written in FORTRAN 77 and the computer used was Alpha Micro 1000.

RESULTS

Table 1

Mean and SD of threshold estimates for the first set of random numbers.

Stimulus series		Psychometric functions							
		Cumulative normal				Linear			
		5 to 9	4 to 10	3 to 11	2 to 12	5 to 9	4 to 10	3 to 11	2 to 12
100 blocks	Mean	7.02	7.30	7.06	7.19	6.96	7.10	7.09	6.81
10 series	SD	.19	.27	.28	.23	.34	.33	.73	.74
1 block of 1000 series	Mean	7.02	7.30	7.06	7.19	6.96	7.10	7.09	6.81
	SD	.61	.93	.93	.96	1.00	1.54	1.99	2.56

Table 2.

Mean and SD of threshold estimates for the Second set of random numbers.

Stimulus Series		Psychometric functions.							
		Cumulative normal				Linear			
		5 to 9	4 to 10	3 to 11	2 to 12	5 to 9	4 to 10	3 to 11	2 to 12
100 blocks	Mean	6.99	7.55	7.12	7.21	7.02	6.95	6.84	6.79
10 series	SD	.18	.24	.34	.27	.31	.43	.58	.60
1 block of	Mean	6.99	7.55	7.12	7.21	7.02	6.95	6.84	6.79
1000 series	SD	.60	.87	1.08	.96	.94	1.45	1.93	2.65

Table 3.

Frequency distribution of first set of Pseudo-random numbers.

N	f	.1	.2	.3	.4	.5	.6	.7	.8	.9	1.0	Chi-square
100	9	17	8	11	8	6	13	10	8	10		8.80
500	59	55	48	57	50	47	47	47	45	45		4.72
1000	108	107	101	118	99	93	101	107	79	87		11.48

Table 4.
Frequency distribution of second set of pseudo-random numbers.

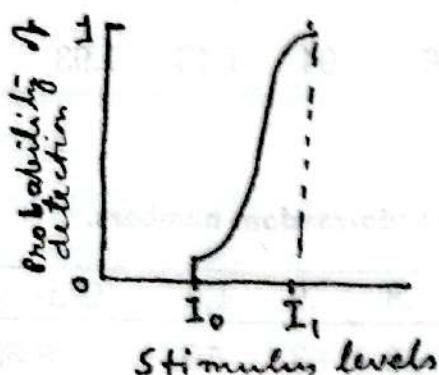
N	f	1	2	3	4	5	6	7	8	9	1.0	Chi-square
100	5	12	13	11	7	8	8	16	13	7		11.00
500	38	45	60	58	51	46	51	54	57	40		10.32
1000	87	92	109	115	122	82	100	101	106	86		15.80

DISCUSSION

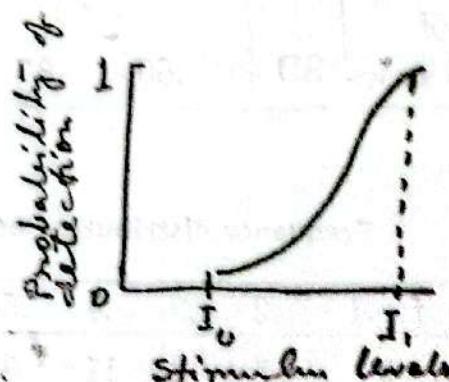
Table 1 and Table 2 show that almost without exception, the SD of the mean threshold values increased with an increase in the number of levels of stimuli. In all the series of stimuli, the mean was 7 and the threshold estimates were quite near this value. These tables also show that SD for 100 blocks of 10 series were consistently lower than the SDs found for 1 block of 1000 trials.

This last observation, however, is not at all unexpected. It happened because in computing the SD of one hundred mean thresholds found for each of the 100 blocks of 10 series the variability was already smoothed out; whereas, in computing the SD of the one thousand mean thresholds found for each series, the full extent of the variabilities was present. So, this result may be considered an artifact.

On first sight, increasing SD with increasing number of stimulus levels may also appear to be an artifact because longer I_0 - I_1 interval increases the scope for variability. But, looking from another angle, we may relate the length of I_0 - I_1 interval to that of sensitivity of a sense organ. The more sensitive the organ, the less the I_0 - I_1 interval and vice-versa. This point is illustrated in Figure 1 below for cumulative normal psychometric function. The same applies for linear psychometric function also.



(a) Keener sense organ.



(b) Less sense organ.

Figure 1

A deficiency of this preliminary study was the non-uniform distribution of the pseudo-random numbers as shown in Table 3 and Table 4. An expected distribution where the random numbers were equally distributed in all the class intervals, was tested against the observed distribution of random numbers. All the Chi-squares showed significant deviation from uniformity. It is suggested that in future studies of the same kind, the random numbers may be made to distribute themselves uniformly.

The idea of making a uniform distribution of random numbers may sound strange because, apparently, the randomness is lost in attempting to make the distribution uniform. But this is not so. To make the distribution uniform, what is done is that once the frequency in a class-interval of random numbers becomes equal to the expected frequency, further random numbers falling in that class interval are rejected. Random numbers continue to be generated randomly until the frequencies in all the class-intervals become equal to the expected frequency. Comparison of data in cumulative normal and linear psychometric functions as well as comparison of data with two different sets of random numbers did not show any significant change.

The conclusion that may be drawn from the experiment is that simulation of a 'perceiving subject' is possible but provision is necessary for making the distribution of random numbers uniform. Further studies on the same line may be done with the method of constant stimuli and a comparison with the threshold estimates by the method of limits may be made.

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POPULATION CONTROL IN BANGLADESH AND THE DILEMMA OF PSYCHOLOGISTS.

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ABSTRACT

For more than three decades the model that has been followed for family planning in Bangladesh is based on IEC activities coupled with service deliveries. Obviously, psychologists and psychological knowledge have played a major part in devising and executing this program. After such a prolonged period of activities the insignificant accomplishment and bleak prospect of this approach justly raise suspicion about its appropriateness and adequacy for population control in this country. This paper is a modest effort to show that the shortcomings of traditional North American brand of psychology, which is the basis of this approach, in solving human problems draw equally or more so on population control. As believers in behaviorism and positivism psychologists in this tradition are apt to fragmentation and isolation of human issue from both its surrounding and past. However, in reality, the population problem in Bangladesh is more deeply rooted in the existing class structure based on the individual's relation to the means of production which again is the product of our prolonged history of colonial and subsequent neo-colonial domination. Thus our behavioristic effort to modify the individual towards rationalistic adaptation, through fertility regulation, to existing hostile realities is doomed to failure. Instead as social scientists, we should expand our perspective and look for means that prepare and stimulate the individual to act in ways to modify the structural realities to suit human needs. Let the individual act of fertility choice be no exception to this rule.

INTRODUCTION

Demographically speaking, the growth of population in a particular region tends to move in cycles. The region now we call Bangladesh is no exception to this general trend. Until the first quarter of this century producing as many children as possible was the most favoured practice in this region. Even now

there are countries in the world where high governmental incentive is provided for producing more children. With the lapse of about half a century it is our cry now to drastically curtail the growth rate within shortest possible period. And we have no reason for not being optimistic in the sense that this trend of high growth cannot continue for indefinite period. Otherwise we cannot survive. The change is imminent. The controversy is about 'how' or through what means. Is it through the present governmental measures formulated and nourished at least in part by psychologists and certain psychological theories or is it through effecting broader social change? This paper is a modest attempt to stand out of the criss cross of demographic figures and attitudinal data to look at the overall picture while searching for an appropriate guideline for psychologists and their population activities.

There are three demographic processes responsible for change in the size of population in any particular region namely, fertility, mortality and migration. Presently, fertility in Bangladesh is one of the highest in the world. Mortality has already been reduced considerably as compared to the first half of this century and prior to it. Nevertheless infant mortality before the age of five is still abnormally high according to international standard. The mortality condition of the vast majority at subsistence level may not change substantially or even worsen in the years to come. But this mortality together with deaths to be claimed by probable calamities is unlikely to act as a significant depressant of our population size (Arthur and McNicoll, 1978).

Given the present socioeconomic mortality can further be slightly reduced only with much effort. Outmigration as a source of population reduction is obviously a remote possibility given the worsening world condition beset with unemployment and saturation in the exploitation of natural resources. Thus the only factor that remains to be levered for reducing population growth is fertility.

The present government and virtually all past governments have regarded population boom as the burning problem in official deliberations. How can fertility be controlled? The only paradigm followed so far is to foster favourable attitude toward family planning through IEC activities coupled with adequate service delivery. Psychologists go very much with this approach and even feel proud of their contribution towards the materialization of this strategy.

But how far this approach is successful? We know even after more than three decades the achievement is insignificant and if there is any reduction in fertility at all there is scope to doubt whether this is due to the Family Planning (FP) program. It is the conviction of this paper that the present approach and psychologists who advocate it for population control can be charged of serious limitations in both assumptions and strategies.

Fertility is the outcome of decisions taken by respective couples. In FP campaign in its present form these couples are assumed as individuals detached from their past and surrounding realities. They just wait out there to receive and follow messages that are designed for their welfare by experts at the center. They do not have the potentiality for judgement of what is good for themselves and are needed just to be conditioned, depending on their cognitive capability for rational adaptation to incoming information, to proper behavior. This is paternalism and is the outcome of our (psychologists') commitment to the miracle of behaviorism and for that matter to science and positivism. This model is primarily that of Hovland and his colleagues at Yale (1940-60). Why do we stick to this model when its ineffectiveness is proven? It is beyond the scope of this paper to delve into such question even though the answer is anybody's guess.

Given the foregoing brief picture of prevailing state of affairs of population control and psychology's part in it is time for all concerned to look for fresh breakthrough in this area. The first question that needs to be answered is what accounts for the gap between knowledge and practice of FP. The prolonged FP program in this country, even though failed to bring down the growth rate by any considerable extent is not totally without any impact. According to BFS data of 1975-76 about 82 percent of our women in the reproductive period know or heard about FP as against only 9.6 percent of current users and 13.6 percent of ever users of contraception (Hong, 1980). This gap between knowledge and practice certainly owes an explanation for any meaningful change in our effort for population control.

We as psychologists derive a sort of pride to have the feeling that we control peoples behavior for their good. In the process we enhance our status and other material rewards too. But in the field of FP we must ponder to justify how far the change we advocate as benevolent are commensurate with realities into which the target people operate. Such reality is conditioned to the

highest degree by the individual member's position in the politico-economic structure prevailing in the society. In Bangladesh, for the overwhelming majority such position is determined primarily by his relation to the means of production.

The vast rural majority in Bangladesh are found in general to be classified in three socioeconomic classes—upper class, middle class and lower class. Unlike urban class structure, in our predominantly agroeconomic society, this division is based on ownership of cultivable land. The upper class or rich farmers are usually absentee landlords. They are in a position to produce high surplus through the employment of agricultural laborers or share croppers in their land. These people dominate the rural power structure through exploitation of lower class while at the same time maintain close link with the urban power center. Producing more children especially boys is the rational choice for this class and serves as a way of consolidating and enhancing their dominance in the production relationship. For this class more children means increase in power, proper management of properties, more family relationship with other powerful farmers and more political and professional positions in the urban power structure. More sons ensures more resources incoming than outgoing in the process of dowry too. To this class, "FP is meant for the poor".

For the relatively affluent middle class farmer, for whom upward mobility counts above all, children can be educated, sent to cities, and used to expand his local power through occupational outlets and marriages (Arthur and McNicoll, 1978). Moreover women, in their position of dependence, find sons as the highest form of security in old age and in case of death or incapacitation of the husband. In this regard the earlier a son is born the earlier he becomes old enough to assume control of family property and assets.

Bangladesh is predominantly populated by its vast rural lower class people who are either landless agricultural laborers or small land owners. These people live at subsistence level and immediate survival is the only and all important issue for them. Because of sheer number the fertility choice of this section have the most decisive impact on the size of our population. This section is mostly engaged in cultivation of others' land as either hired laborers or tenants. In a competitive social structure with limited resources more sons and in that process

more children means more hands of labor to ensure increased share in the available resources and more future security for the family. As a result of unfavourable agricultural policy and crises—economic, social and family related, the small landholders, as a constant process, are increasingly turning into landless field laborers. For this overwhelming section of people with no resources and no control over the means of production the only form of investment that remains open is to produce more children with the expectation to add additional hands of labor (Arthur and McNicoll, 1978). As may be observed from the foregoing discussion, pronatalism prevails fairly uniformly, although for varying reasons, across classes in Bangladesh. Fertility is not, as we have learned to believe, the result of ignorance or blind choice. For Bangladeshis in general there is no social or economic reason to interrupt fertility short of its natural limit. Children here are considered a benefit than burden. According to Cain's (1977) study, "Male children may become net producers as early as age 12, compensate for their cumulative consumption by age 15, and compensate for their own and one sister's cumulative consumption by age 22."

With the above realities in mind, anybody can guess how far the present campaign for the promotion of contraception is about to succeed. Any campaign like this, with the structure standing intact against the helpless millions and without any assurance to alter it, is superficial and tantamount to sidetracking the root of the problem. The prevailing low rate of contraceptive practice as against universal awareness of FP can also be understood in this light. This is also confirmed by the fact that the rate of acceptance of sterilization among the extreme poor section compares much higher to that of pill or other methods of contraception (C.P.S. Report, 1984). The scanty material incentive provided with voluntary sterilization acts as the major determinant of such difference and once again shows that immediate survival rather than long term planned family is of top priority to these people.

A change in structure is inevitable to maintain the size of the population to a feasible lowest level while at the same time support the unavoidable addition of mouths at a reasonable standard. Such structure must provide a setting in which the individual looks more to the community and his contribution to it for support and security and less to the government, the landlord or his son. And at this point can psychologists devote their endeavor to explore ways and means to promote the suppressed human quality of cooperativeness rather than selfish

individualism and competitiveness. They can suggest structural changes that foster independent (creative) endeavor conducive to population control instead of blind followership of vertical suggestions. But to do this we need to be social scientists in its truest sense with broader perspective of inquiry and shun the idea of being recognized as 'scientists' with tunneled view of human issues. Population is branded by the authority as the number one problem facing us. This goes well with the model in practice to isolate the issue from relevant condition. It holds the individual totally responsible and blame him for high fertility at both individual and national level thereby rendering him passive for any attempt to mould the existing unfavorable structure in his favor. But a favorable structure is inevitable for a favorable fertility choice on the part of the individual. Therefore, sticking to the present model we can only do some lobbying for psychology but as warned by Allport (1941), "Pushing psychology forward is not the same thing as pushing the country forward". To be honest to professional obligation our population activities should be oriented to the slogan of the 1974 Bucharest conference: "Take care of the people, people will take care of the population."

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MATERNAL AGE AND ATTITUDE TOWARD CHILD-REARING

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ABSTRACT

This Paper reports a study that investigated the effects of maternal age on attitude toward child-rearing. A structured questionnaire reflecting maternal attitude toward child-rearing was administered on two groups of mothers. One group consisted of 75 mothers whose age ranged from 30 to 35 years and the other group consisted of 75 mothers whose age ranged from 45 to 50 years. t-test was used to analyse the data. Results showed that compared to the older mothers, the younger mothers put more emphasis on encouragement of verbalization, early training, fostering dependency and also on providing protection to their children. However, no significant difference was found between the two groups regarding their attitude towards punishment and strictness.

INTRODUCTION

There is a paucity of data and theory about the effects of maternal age on attitude toward child-rearing. It is true that age *per se* is not a very meaningful variable because it is only an index of the length of time an individual has been alive. But as people do change with advancing years it may be assumed that there are factors associated with age which produce age differences. Research findings have shown that different factors are responsible for producing age differences in different areas of behavior. However, at present, we will limit ourselves to a brief discussion of the factors related to maternal age effects.

Baldwin and Cain (1980) suggested that maternal age effects may result from differential level of stress experienced by younger and older mothers. But maternal age effects cannot simply be reduced to stress factors as is shown

by Epstein (1980). According to him, psychological factors such as degree of emotional maturity or ego-centricism underlie chronological maternal age. Age differences can also be explained in terms of the theory of discontinuity. People generally internalize the values and attitudes of their predecessors. But when a society experiences changes in culture, educational opportunities and occupational trend there may be discontinuation of values and attitudes from the older to the younger groups. This in turn may produce age differences. In Bangladesh, the women, especially the urban women, have faced such changes in the recent years and the changes for many people have been so massive that they feel that old guidelines for disciplining and training the children are not acceptable.

From the theoretical considerations and available research findings it may be assumed that maternal age is related to child-rearing attitude. The present study was therefore designed to verify the hypothesis that there would be significant differences between the older and the younger mothers in their attitude toward child-rearing.

METHOD

Subjects

The subjects consisted of 75 mothers whose age ranged from 30 to 35 years (younger group) and 75 mothers whose age ranged from 45 to 50 years (older group). The following criteria for selection were used: educational status not below class IX, has no handicapped child and willingness to co-operate. The two groups were matched in respect of education, income of the family and parity.

Instrument used

A structured questionnaire developed by the author (1984) was used to obtain multivariate measurement of attitude toward child-rearing. The questionnaire was designed to measure seven variables of which the following sub-scales were used in the present study. Brief description of the variables along with the interpretation of the scores is also presented with the names of the sub-scales.

Encouraging verbalization: High scores in this scale reflects approval of a close relationship with a child which still permits freedom to develop as a

differentiated individual and also express his views about family affairs and parent's behavior toward him.

Accelerated training : High scores in this scale reveal a demand for achievement.

Strictness : High scores in this scale indicate a demand for conformity to rigid rules.

Over-protection : High scores in this scale reflect underlying feeling of insecurity.

Fostering dependency : High scores in this scale have a central theme of control of the child through keeping the child indebted to the mother dependent and immature.

Punishment : High scores in this scale reveal attitude that approves of the use of harsh punishment as a method of child training and thus reflects parental dominance.

The response for each item was expressed in a five-point scale from "strongly agree" to "strongly disagree" and the subject was to choose one of these responses. The total score of each individual for each variable was determined by summing her response scores to all items representing a given variable.

Procedure

A visit was made to the house of each of the subjects and the questionnaire was administered on them individually. The subjects took on average 20 minutes to complete the questionnaire.

RESULT

In order to see the relationship between age of the mother and maternal attitude toward child-rearing, subjects' scores on 6 sub-scales of parental attitude questionnaire were analysed by t-test. Results are presented in Table 1.

Table 1
Mean scores obtained by two groups of mothers in six sub-scales of parental attitude questionnaire with t-values

Scales	Mean		t	p <
	younger group	older group		
Fostering dependency	14.10	12.00	2.08	0.05
Punishment	13.12	13.65	0.89	
Protectiveness	12.45	10.60	2.73	0.01
Strictness	10.70	9.95	1.02	
Acceleration of training	12.80	10.95	3.25	0.01
Encouraging Verbalization	12.78	11.44	2.02	0.05

Results provided in Table 1 revealed that on the scales Protectiveness and Acceleration of training significant differences between the mothers of two groups were found at .01 level and on the scales Encouraging verbalization and Fostering dependency differences were significant at .05 level. It is also apparent from the means of the scores that the younger mothers foster dependency and encourage verbalization in their children more than the older mothers. They also tend to be more protective and put more emphasis on early training.

The scales Punishment and Strictness failed to differentiate between the younger and the older mothers.

DISCUSSION

The aim of the present study was to verify the hypothesis that the younger mothers will differ from the older mothers in their attitude toward child-rearing. Results indicated that the younger mothers are unlike the older mothers in certain dimension of child-rearing attitude whereas in some other dimension they approve the traditional ideas. The younger group differed from the older group in their attitude toward fostering dependency, protectiveness, acceleration of training and encouraging verbalization but both the groups were found to be equally restrictive and punitive. It seems that newer norms have not totally replaced the older ones. Rather, they exist side by side. So, it may be said that the hypothesis of this study is partially confirmed.

Further analysis of the results show that the younger mothers are more permissive in their attitude than the older mothers i.e. the younger mothers encourage their children to express their views regarding different problems of life and put emphasis on reasoning and talking in the area of discipline more than the older mothers do. This may be due to the fact that with the changes in the society and role structure the authoritarian control of the parents is being relaxed and as a result younger group shows more permissiveness.

The younger mothers were also found to be over-protective. This is in confirmation with the findings of Levy (1943) as he showed that over-protective mothers are inclined to be warm and permissive.

Levy (1943) also suggested that over-protective mothers remain permissive as long as their offsprings are infant but later they become unusually restrictive as indications of independence begin to appear. This indicates that over-protective mothers are permissive on the one hand and on the other hand they foster dependency in their children. Results of the present study supports the findings of Levy (1943) as over-protection, permissiveness and fostering of dependency were found in the same group of mothers i.e. in the younger mothers.

The results also showed the the younger mothers put more emphasis on accelerated development i.e. they advocated for early training more than the older mothers. Sarafino and Armstrong (1980) pointed out that over-protective mothers intrude into and try to regulate a great many aspects of their children's development. As the younger mothers of this study are more over-protective than the older mothers, it is likely that they will be more concerned with the training of their children.

The present study also indicates the existence of conflicting attitudes in the younger mothers. When compared with the older mothers the younger mothers were found to be more permissive but equally restrictive and punitive. This contradicts the findings of Baumrind (1971).

In conclusion, it may be said that there has been considerable change in our culture concerning maternal attitude toward child-rearing. This change has not totally replaced the older ideas with newer ones but has resulted in the simultaneous existence of the conflicting attitudes toward child-rearing. However, further studies with improved methodology and larger sample are suggested for reducing any possible bias.

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AGGRESSION AS A FUNCTION OF BIRTH ORDER AND FAMILY SIZE

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ABSTRACT

The purpose of the study was to investigate the relationship of aggression with birth order and family size. An aggression questionnaire (G. C. Pati, 1979) was administered to 202 subjects (100 girls and 102 boys) by visiting secondary and higher secondary schools in Dhaka. Mean aggression score of the second born was the highest and mean aggression score of the first born was the lowest. Analysis of variance revealed that aggression varies as a function of ordinal position whereas it did not very significantly according to family size. Thus the result confirmed that ordinal position of children significantly influences aggressive behaviour.

INTRODUCTION

Aggression in human beings includes all behaviour that is intended to inflict physical or psychological harm on others. It is emphasised by most psychologists that family is the matrix of fundamental training of the child. The emotional attitude of the parents and the degree of secure affection which the child finds in the family-life have long been emphasised as having a profound effect upon the reactions of the children. Aggressive behaviour is one of such reactions.

Familial influences and the patterns of childrearing are affected by certain aspects of family composition. The most obvious of these are a child's birth order and the number of siblings in the family. Many developmental psychologists have found that birth order is significantly related to the development of personality traits (Adams, 1972; Kallaghan & McNamara, 1972). There is an obvious environmental difference for the first born and later born

children, first borns tend to assume dominant roles toward their younger siblings (Sutton - Smith & Rosenberg, 1966). Some of the studies noted that first borns are more susceptible to social pressures (Arrowood and Amoroso, 1965, Sampson 1965 ; Warren, 1966) and are more easily influenced (Carrigan and Julian, 1966) than later borns. Marion M. Chambers (1970) found that later born children are raised in a more complex social environment and hence they have a tendency to become aggressive. A study conducted in Bangladesh (Begum et.al., 1981) examined the relationship between birth order and personality variables. Along with other variables they found that aggression varies significantly as a function of birth order. In their study middle borns scored highest on aggression.

The effects of birth order have been found to be greater in large families (Oberlander, Jenkins, Houlihan, & Jackson, 1970). Family size also determines the number of different interactions each member is involved in. If the number of such interactions is large, conflict may result and the parents tend to resort to authoritarian child-rearing methods frequently than would be the case in smaller families (Bossard & Boll, 1966). There is a substantial amount of evidence that parents of aggressive children tend to use power assertive techniques (Chwast, 1972).

From the available research findings it appears that birth order and family size are important factors contributing to aggressive behaviour of children. In order to observe the exact nature of relationship among these three variables viz., birth order, size of family and aggression, the present study was undertaken.

METHOD

Sample :

The sample of the present study consisted of 102 boys and 100 girls in the age range of 14-15 years. Since the questionnaire was in English, the subjects were selected from those schools, where the standard of English is reasonably good. In some cases, where subjects were unable to comprehend, the questions were explained to them in Bangla in order to elicit correct responses. But in most cases they did not face any difficulty as the questions were written in easy English. On the basis of birth order the subjects were divided into (1) First born children (61), (2) Second born children (55), (3) Middle born children (46),

(4) Last born children (40). On the basis of family size they were divided into (1) Small family = 35 (having 1-2 children), (2) Middle sized family = 74 (having 3 children) and large family = 60 (having more than 3 children). The sample size was smaller, while the size of the family was under consideration (169 boys and girls).

Instrument :

An aggression questionnaire developed by G.C. Pati (1976), Utkal University, Orissa, was administered by visiting the schools in the classroom situation. Subjects of the selected schools were asked to take part in the test and all of them willingly co-operated.

In the questionnaire, there were 16 items, three possible answers to each of the question were given following the items. A separate answer sheet was provided showing corresponding numbers to the item and the answers. The subjects were asked to mark the answers which they thought were most appropriate. Informations were also sought through the answer sheet pertaining to birth order, family size, age, etc. of the subjects. Subjects who had high scores (above 412) were regarded more aggressive than the subjects who had low scores (up to 412).

RESULTS

The following Tables (1 & 2) show the mean aggression score by birth order and family size.

Table 1. Mean Aggression Scores of First born, Second born, Middle born and Last born.

First born	Second born	Middle born	Last born
433.32	483.80	449.40	480.18

Table 2. Mean Aggression Scores of Subjects in Small, Medium and Large Families.

Small family	Medium size family	Large family
461.17	452.82	478.82

The analysis of the results was based on one way analysis of variance. In order to see whether aggression is related to birth order and family size, the main effects were calculated and presented in Table 3 and Table 4.

Table 3 Summary of anova for aggression by birth order

SV	SS	df	MS	F
Between group	96933.70	3	32311.23	
Within group	1571730.93	198	7938.04	4.07*

*Significant at $p < .01$

The value of 'F' in Table 3 indicates that aggression among boys and girls differ significantly according to their birth order.

Table 4 Summary anova for aggression by family size

SV	SS	df	MS	F
Between group	21617.60	2	10808.80	1.53
Within group	1170530.87	166	7051.23	

The value of 'F' in Table 4 indicates that aggression among boys and girls does not differ significantly according to their family size.

DISCUSSION

The results of the present study suggested that ordinal position of the children significantly influences aggressive behaviour, whereas the size of the family is not directly related with aggression of the children. The result obtained regarding birth order is consistent with the results obtained by Martin M. Chambers (1970) and Begum et. al. (1981).

In the light of the findings of present study we can say that the ordinal position, that a child occupies in a family has a great effect on his eventual personality. If we look at the mean aggression scores of first, second, middle and last born children, we find that mean of second born children was the highest whereas mean of first born was the lowest. Last born children also scored high on aggression in comparison to middle born children. The first born child lives the first years of his life as an only child and relates entirely to his parents. They are likely to incorporate adult values more rapidly than do later children. The second born children arrive in a family where they are subjected to different interpersonal relationships. Thus each child's world is different from the world of his siblings. Gordon has pointed out that the first child handles feeling through withdrawal. But the second born children seek more physical affection from his parents and will try to get attention by approved or unapproved means. Besides these factors, the difference in personality might take place due to difference in childraising. The first born children are born to inexperienced parents whereas the parents of middle born children are experienced and raise their children in a different way. The parents apt to devote most of their parental time to the youngest child because of his physical and emotional immaturity while the older sibs may claim some "right" by virtue of his age for special attention and consideration.

Since the result obtained regarding family size is not significant, we can say that the significant variable is not the family size per se, but other pressures characteristic of many large families, poverty, poor educational, economic and social opportunities may be responsible for children to become aggressive. Secondly, parental attitudes regarding family size may be important. Parents expecting large families may generate a warm and accepting climate, whereas those who look forward to a small family may respond resentfully to the burden of a large family. Thirdly, interaction within an extended family, which may be composed of more adults of varying generations was not taken into consideration. Interaction within an extended family may as well offer qualitatively different types of relationship which may turn influence aggression as an element of interaction. Finally, the sex of the siblings, age-spacing parent-child relationship are also important factors which may complicate the family size effects. The spacing of children affects parental attitudes depending on whether children arrive at a planned time, or interrupt the mother's career or

introduce an excessive financial burden at an inopportune time for optimal family development (Freedman and Coombs, 1966). Systematic probing into the interaction of these variables with family size is necessary to get a more conclusive result. Cross cultural studies are also necessary which may well show that culture may have something to do with the development of aggressive behaviour.

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AN EMPIRICAL INVESTIGATION OF SOME PERCEIVED CAUSES OF IRREGULAR ATTENDANCE OF STUDENTS IN RAJSHAHI UNIVERSITY.

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ABSTRACT

The present study was designed to investigate empirically some Psychological factors relating to irregular attendance of the students of Rajshahi University. A total number of 80 Ss were randomly selected from Arts and Science faculties. A 2x2x2 factorial design representing two levels of sex (Male/Female), two levels of faculty status (Arts/Science) and two levels of residential background (Urban/Rural) were utilized for the study. The results revealed a common pattern for perceived causes of irregular attendance regardless of faculty, sex and residential background.

INTRODUCTION

Educational Institutions may be conceived as the merging point of socialization process, societal control and social groups. A large number of research works (Buchman, 1972, Pande, 1980, Ara, 1985a, 1985b 1987, Ara & Huq, 1985) have been directed to study the structural composition and climatic conditions of educational institutions focusing on such variables as improved technique of teaching, interests and aptitudes of the students, psycho-social factors relating to teacher-student relationship and environmental factors relating to peers and parents. In spite of these efforts of improving school climate in the direction of socialization and conformity behavior, the phenomenon of irregular attendance consistently figures as a standing problem in most of our educational institutions. It is thought that irregular attendance in school level

may be identified with lack of motivation, interests, low I.Q. and socio-economic status (Chitnis, 1977; Fuller, 1972). But there are few studies that reflect the factors causing irregular attendance in higher educational institutions. Particularly in Bangladesh the phenomenon of irregular attendance in universities poses great problems leading to the emergence of conflicting loyalties, non-conformity behavior and share neglect to the traditional teacher-student relationship. In the sequel of these empirical observations the present study is designed to conduct an empirical investigation about the phenomenon of irregular attendance of Rajshahi University students in Bangladesh.

METHOD

Sample and Design

The sample of the present study consisted of 80 students randomly drawn from the science and arts faculties of Rajshahi University within the age of 20-25 years.

Out of these 80 students 40 belonged to arts and 40 to science faculty. In each faculty 10 subjects were male and 20 Ss were female drawn from the urban and rural background. Those Ss who are living with their parents in town from their birth were considered to have urban background. Again those Ss who are brought up in village and have less than five years experience of living in town were considered to possess rural origin. The sample thus categorized provided a $2 \times 2 \times 2$ factorial design with two levels of sex (male/female), two levels of faculty status (arts/science) and two levels of residential background (urban/rural). However the data were analysed on the three subgroups: (1) Arts and Science (2) Male and Female and (3) Urban and Rural.

Instrument

Non conformity Behavior Testing Checklist (NBTC) :

To measure the perceived causes of irregular attendance, a checklist called Nonconformity Behavior Testing Checklist was developed in Bengali.

Initially 18 items were elicited by asking 15 Ss using open-end questions. These items were subjected to the evaluation by the judges and 12 items were finally selected to be retained in the checklist. The checklist thus prepared was presented to Ss individually and were asked to evaluate each item on a rating

scale ranging from 'most important' to 'less important'. Most important item was asked to assign 12 and least important item was asked to assign 1. Thus the highest possible score for each item was 12 and the lowest possible score was 1.

RESULTS AND DISCUSSION

The results of the present study is reported in Table 1. It reveals a common pattern of perceived causes of irregular attendance of the students in the campus. In general, Ss regardless of faculty orientation, sex and residential background perceived item Nos. 11, 8, 4, 7 and 2 respectively to be directly related with the phenomenon of irregular attendance.

Table 1

Mean value of each item for Arts/Science, Male/Female and Urban/Rural on Nonconformity Behavior Testing Checklist (N-40 for each group).

Item	Faculty		Sex		Residential Background	
	Arts	Science	Male	Female	Urban	Rural
1. Uncertainty of getting job	5.88(8)	4.1(8)	5.(7)	4.98(8)	5.25(8)	4.73(8)
2. Active participation in Politics.	8.43(3)	7.1(5)	7.75(5)	7.7(5)	8.4(3)	7.1(6)
3. Non-availability of Books in Bengali.	3.9(10)	9.1(2)	7.8(4)	5.2(7)	6.3(6)	6.7(7)
4. Admission in a department in which the candidate is not interested.	8.1(4)	8.1(2)	7.9(3)	9.28(4)	8.25(5)	8.9(4)
5. Financial hardship.	7.4(6)	6.58(6)	7.9(3)	6.00(6)	5.93(7)	7.97(5)

	Arts	Science	Male	Female	Urban	Rural
6. Inability to follow class lecture,	1.85(12)	5.9(7)	3.8(10)	3.96(9)	4.00(11)	3.8(9)
7. Insufficient Hostel (4) accommodation.	7.5(5)	8.6(3)	8.9(2)	10.1(3)	8.3(4)	10.7(1)
8. Non-cooperation of the authority.	10.3(2)	11.4(1)	7.4(6)	10.8(1)	8.96(2)	8.98(3)
9. Opportunity of getting suggestions from the teachers concerned.	4.65(9)	3.33(9)	4.33(8)	3.75(11)	4.6(10)	3.4(10)
10. Irregular attendance of teachers.	2.83(11)	2.1(10)	2.8(11)	2.1(12)	2.5(12)	2.4(12)
11. Opportunity of appearing in the examination inspite of irregular attendance.	11.25(1)	7.2(4)	10.75(1)	10.4(2)	10.5(1)	10.6(2)
12. Opportunity to pass the examination without attending classes regularly.	6(7)	1.8(11)	3.93(9)	3.9(10)	5.1(9)	2.7(11)
	<i>r = .55</i>		<i>.79</i>			<i>.88</i>

Ss assigned highest preference to item 11 which tells that 'opportunity of appearing in the examination inspite of irregular attendance' might be an inherent psychological disposition in the students leading to the nonattendance to the classes. This item appears to exert a far reaching influence in the socialization process in the newly admitted students. The belief that 'irregular students somehow are capable to manage' for appearing in the examination seems to appear as a great dilemma to the majority of the students. Second highest preference was assigned to item 8 which contains the idea of 'non-cooperation of authority'. This item has an intrinsic linkage with item no 11 in the sense that Ss perceived authority to hold aversive opinion which is not for the growth and development of structural composition and climatic condition of the University. Thus the ecological factors appear to get due consideration in the psychological functioning of the students for the crystallization of attitudinal preferences in the direction of concerted effort for conformity behavior. Item No. 4 contains the idea that 'admission in the department in which the candidate is not interested' which achieve the third position according to priority in the galaxy of attitudinal preferences. This item also points to the unstructured administrative policy for accomodating to the candidates to their choices, preferences and interests. Item no 7 was posted on the fourth position which contains the idea of 'insufficient hostel accommodation'. Arguably it can be thought that students have to undergo through great anxiety for proper accommodation in their initial stages of campus life. This anxiety as a psychological variable sometimes creates trouble within the psyche of the individuals leading to irregular class attendance. Item no 2, i.e., active participation in politics' emerged as fifth highest perceived cause for irregular attendance. The involvement in politics of the students has been well investigated in recent years (Lipset, 1968; Sinha, 1980; Ara, 1985; Ara, Huq & Jahan, 1985) and it has been documented that one of the major causes of absentee in the campus is linked with the involvement of the students with parent political organization as well as campus politics. Present finding provided further empirical support to the previous theoretical construct and empirical investigation.

CONCLUSION

The present study was designed to measure perceived causes of irregular attendance in the campus of Rajshahi University and the results obtained

provided a common pattern of attitudinal preference of Ss irrespective of faculty belongingness, sex and residential background. This has been supported from the correlational analysis between urban and rural background ($r=.88$), male and female ($r=.79$) and between arts and science ($r=.55$). The present study encompasses all these ideas and utilized them for providing insights for further theorization for understanding nonconformity behavior in the campus. It is expected that the study would initiate controversy regarding the issue of irregular attendance and the future researchers would be able to capture the inherent contradiction through their well designed experiments and research investigations.

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NATURE OF WORK AS A DETERMINANT OF INDUSTRIAL FATIGUE

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ABSTRACT

Feeling of fatigue signifies overall unpleasantness experienced by the workers. This study was designed to investigate whether industrial fatigue differs according to nature of task—muscular work and sensory motor work. One hundred workers were employed as subjects. The research method employed to collect data for investigation was a scale for measuring fatigue developed by Yoshitake (1971). From the result of the present investigation it was found that workers whose work nature are of sensory motor in nature differ from those doing muscular work.

INTRODUCTION

“Fatigue” usually denotes a loss of efficiency and a disinclination for any kind of effort, but it is not a single, definite state. In an intensive study called ‘Fatigue and Hours of Service of Inter State Truck Drivers’ (1947), the term “fatigue” is defined as an alternated psychological and physiological state in relation to the status of recovery or normal capacity. Musico (1921) defined fatigue as a condition caused by activity in which output produced by that activity tends to be relatively poor and the degree of fatigue tends to vary strictly with the poorness of output.

During the muscular contraction chemical processes occur, which among other things, provide the energy necessary for mechanical efforts, after contraction, when the muscle is relaxed and resting, the energy reserves are replenished. Thus both energy releasing breakdown and energy restoring synthesis are going on in a working muscle. If the demand for energy exceeds the powers of regeneration, the metabolic balance is upset, resulting in a loss of muscular performance (Scherrer, 1967).

Sensory motor type of work involves eye-hand coordination. Several authors have shown unmistakeably that about four hours of continuous driving is enough to bring on a distinct lowering of the level of alertness and thereby increase the risk of accidents.

O' Hanlon et. al. (1921), Ryan and Warner (1936), Pin (1966) Lecret et al. (1968) observed a progressive increase of the alpha waves in E. E. G. while doing sensory motor type of work. Harris et al. (1972) reported that after a few hours at the wheel the performance of drivers of buses and of heavy lorries become distinctively poorer, especially their judgement of the edge of the road and the number of the corrective movements of the steering wheel they needed to make.

People who have psychological problems and difficulties easily fall into a state of chronic fatigue. This may be caused by dislike of the occupation, of immediate task, or of the work place, or conversely may itself be the cause of maladjustment of work or surroundings.

From the foregoing discussion it appears that feeling of fatigue signifies overall unpleasantness experienced by the workers. Nature of work plays important role in the amount of fatigue one experiences in one's job setting. A very small amount of studies were carried out so far in industrial settings of Bangladesh on fatigue. The present study aims to investigate whether industrial fatigue differs according to nature of task muscular work and sensory motor work.

METHOD

Sample : The sample of the study comprised 100 workers in printing press. Of them, 50 belonged to muscular type of work and 50 sensory motor type of work. The subjects were all males having been selected at random. Their age ranged between 20-35 years, and experience between 2-6 years.

Measuring Instrument : The research method employed to collect data for investigation was a simple scale measuring fatigue developed by Yoshitake (1971). It is a scale with numbers 1-9, the extreme state being "I feel fresh and rested" at the one end and "I feel extremely weary and exhausted" at the other.

Procedure : For the purpose of the study subjects from two types of work group were taken. Fifty Ss were taken whose nature of the work were of muscular type, and the other fifty Ss were taken whose nature of the work were of sensory motor type.

The subjects were to rate on a 9 point fatigue scale, ranging from 1 "I Feel fit, rested" to 9, "feeling extremely tired, exhausted". The intermediate points were only indicated by a numerical rating. The S's first rating about how they are feeling were taken just before they started their day's work, and the second rating about their feelings were taken just after they finished days work. The same procedure were followed for both the natures of the job.

RESULT

In order to find out whether the fatigue score of the Ss doing muscular work and sensory motor work differ, sign test for two independent samples were employed. The result of the same is presented in the table below :

Sensory Motor type of work	43	7
Muscular type of work	28	22

$\chi^2 = 10.93$ Significant at .01.

DISCUSSION

From the result of the present investigation it was found that there is a difference in the median of the fatigue scores of the subjects working under two types of the work, the value of χ^2 is significant at .01 level. The workers whose work are of sensory motor in nature differ from those doing muscular work. Sensory motor work involves both eye-hand coordination. There is a close link between autonomic nervous system, which controls the activities of the internal organs, and activating and inhibitory systems (Hess, 1948). Increased activity of the inhibitory system lowers the heart rate and blood pressure, cuts back respiration and metabolism, and relaxes the muscles, while the digestive system works more vigorously to assimilate more energy.

In muscular type of job, the performance of the muscle falls off with increasing strain. It is characterised not only by reduced power, but also by slower movement. Herein lies the explanation of the impaired co-ordination, and increased liability to errors and accidents that accompany muscular fatigue but rate is lower than sensory motor type (Scherrer, 1967).

It is therefore, quite likely that fatigue of industrial employees doing sensory motor work and muscular work will differ. But fatigue in industry is not only dependent on the nature of the work. It may be related to the other situational factors as well as the demographic characteristics of the subject. It would have been appropriate for the further study in this direction to take demographic and other variables into consideration.

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ADOLESCENT VOCATIONAL CHOICE : NATURE AND SIGNIFICANCE

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ABSTRACT

In the article nature and significance of adolescent vocational choice has been discussed. The problem of vocational choice has a particular relevance to the adolescents. It has been attacked with different approaches by psychologists, socioologists and economists. A great deal of work has been carried out in this field by Super and his associates, Roe, Tyler and others.

A number of goals and objectives have been studied and identified by Powell and Bloom, Stephensen, Herrocks and others separately for boys and girls. Clear-cut sex differences have been found in adolescents' goals and objectives.

Several factors influence vocational choice like motivational, environmental, biological and other factors. Intelligence has been found to be more important than age in connection with vocational choice.

Several indices of vocational maturity have been identified. Finally suggestions have been made for studying the different aspects of adolescent vocational choice.

INTRODUCTION

The term vocational choice has been widely used in discussion and studies of vocational development, vocational adjustment and vocational maturity. Vocational choice is a development process rather than discrete events. Adolescent vocational choice is closely related to his vocational interests and abilities. It denotes a whole series of choices, generally resulting in elimination of some alternatives and retention of others. The adolescent may have one preference during elementary school, another in high school which again may change in college and university depending upon a number of factors that will be discussed

later. Vocational choice is not a peripheral decision of the individual made on a chance or necessarily reality basis, but a concrete expression of personality development and emotional experiences within the framework of the environmental pressures and opportunities with which an individual is confronted. Therefore vocational choice is a resultant of the emotional development of the individual and is in part an expression of the individual's method of adjustment to his environment (1).

Different people have attacked the problem of vocational choice with different approaches. Frank Parsons, father of vocational guidance, says that if a young man chooses his vocation so that his best ability and enthusiasm will be united with his daily work, then he has laid the foundation of success and happiness. Super, on the other hand, has outlined vocational choice not in term of critical period of adolescence as Parsons formulated but as a progressive series. The first stage of adolescence is an exploration and development of self-concept so that the adolescent understands himself in terms of what he wants to become as an adult (14). Anne Roe has also been working with reformulation of Parsons' three-step-hypothesis (9). She emphasises motivational factors that determine the patterning of preference the child develops as he expresses his own personality through vocational tasks.

Need For Vocation :

The need for vocational choice has been a subject of study by psychologists, sociologists and economists. Wise and suitable vocational choice leads to better human relations, better work and better livelihood. Vocational choice comes to the fore front during the late teens. The need is apparent first in infancy, then in vague exploratory concern and finally in tentative decision to specific vocational choices.

Vocational motives are complex. They may involve a sheer desire for mastery. They may represent primarily an avarice for material possession, a love for a type of activity. They may be chosen because they bring about social prestige and public prominence. Some of the most serious problems of adolescent and adult life grow out of inability to clarify sufficiently their vocational choices so that intelligent action can be taken toward achieving them.

Horrocks has identified a number of factors that determine the need for vocation. They may be briefly summarised as follows:

1. Adult pressures
2. Desire for personal freedom
3. Desire for economic independence
4. Marriage incentive, of greater interests to girls, and late adolescent boys.

Development of vocational choice :

Vocational development is one aspect of adolescent development. It has both distinctive characteristics which make focussing on it worthwhile and common characteristics which reveal it as one way in which the development of the individual manifests itself.

Vocational choice begins early in life and proceeds along a curve until late in life. It has life stages (2,3,12,13), each defined by its characteristics. Buhler, originally, has classified the different life stages. Super has dealt with these stages very elaborately—growth, exploratory, establishment, maintenance and decline. Without going into the details of each stage it will suffice to say that the exploratory stage, in which the major sub-stages as defined by Ginzberg et. al. (2) as Tentative and Realistic (the fantasy sub-stage being largely preadolescent) is characterised by :

1. Increasing orientation to vocational choices
2. Increasing amount of vocational information and more detailed and comprehensive planning
3. Increasing consistency of vocational preferences
4. Crystallization of traits relevant to vocational choices
5. Increasing wisdom of vocational preferences.

Career pattern study by Super and associates is an attempt at constructing a scale to measure vocational development—its degree and place on the continuum of vocational development ranging from growth to decline.

The best time to measure vocational choice is the time when the adolescent is ready to begin vocational planning. Thus exploratory stage in junior and senior high school is the most suitable period. If we had normative data indicating the typical behaviour at each stage, atypical behaviour could be

recognized more readily. We could thus identify these more in need of special help and in diagnostic work with individuals.

The adolescent has to make decisions regarding different curricula. These decisions influence his future vocational career. Time, energy and money are wasted in unnecessary vocational floundering. But it is difficult to say that the early teen-aged school students are mature enough to make vocational choices. Any way, it can be said that they should be ready to make step by step choices that are called for as they progress through school so that the vocational choice they will make is satisfying, productive and successful.

It bears relevance to mention here the concept of Developmental Task as given by HAVINGHURST (3). A developmental task is a task which arises at or about a certain period in the life of the individual, successful achievement of which leads to his happiness and to success with later tasks, while failure leads to unhappiness is the individual approval by the society, and difficulty with later tasks.

The developmental task may arise from the pressure of cultural processes upon the individual, from the desires, aspirations and values of the emerging personality, and they arise in most cases from the combination of these factors. acting together.

It is the period of adolescence that the school loses its appeal to the wide open mind of the child and must cater to the selective interests of the adolescents. The vocational interest comes to the fore.

Occupational planning and preparation are the principal interests of boys and girls. Vocational training prepares for better adjustment. Schools play very significant role in this connection. They should take the following responsibilities :

1. Helping students to choose occupation in line with their abilities and interests.
2. Helping students to choose an occupation in the light of its value to the society.
3. Helping students to get general educational value out of occupational preparation.

Goals and objectives :

Powell and Bloom (8) have tried to find out in a study if boys and girls had long range life aim. The boys responded in order of preference as follows : enter a specific vocation, to have their own business, to become a personal success, desire for financial success and security, social prestige, and doing the job well. Some of the boys stressed the acquisition of money more than they would need, while others emphasized economic security. The responses of the girls with respect to ultimate objective in order of preference were : desire for specific vocation, desire to be the job well, the desire for personal success and advancement, the desire to marry and have a home and children, and to be of service to others. Mere sex differences in the ultimate goals of adolescents is above board. Boys and girls do not lay equal emphasis on the same factors.

Stephenson (11) determined occupational aspirations (what kind of work he would like to do if he could do anything he wanted) and occupational plans (what kind of work he planned to do) of 443 9th graders. 9th grade is an important period in the school life of the student because it is at this point that he has to make a choice with respect to his high school curriculum. It differentiates the college and non-college aspirants and in focusing the student's attention on occupational considerations.

There is a marked difference between the aspirations and plans, the latter more nearly approximating the father's occupational positions. All students tend to concentrate their aspirations in high occupations such as professions. But when they consider their plans, they lower occupational sights. Occupational plans and aspirations selected are confined within a narrow range.

When students are grouped according to father's occupations, a relatively close relationship between student's occupational plans and his father's occupational group is indicated ; but in case of aspirations the students have relatively high occupational aspirations. Students in lower group, lower aspirations most when considering occupational plans.

Interesting sex differences in plans and aspirations were found. Female plans concentrated in the clerical and kindred jobs, but a good number or percentage aspired for professions. 58% of male choices for professions was for sports, engineering and medicine. 54% of female choices for professions

concentrated in entertainment (acting, dancing, singing), teaching and nursing. The most frequently mentioned of all occupations was secretarial job which was chosen by 23% of the females.

Horrocks (4) also held that boys and girls reported different job preferences. Boys are more scattered in interests as compared to girls.

Factors Influencing Vocational Choice

A. Motivational Factors

Powell and Bloom (8) have cited a number of motivational factors that determine vocational choices. Interest in work, security, personal advancement, creative idealism, adventure and travel besides a host of others were mentioned by boys while girls mentioned interest in work, interest in people, service to others and security.

B. Environmental Factors

Powell and Bloom, in their study, found that majority of high school students do not acknowledge that any one has influenced them in the selection of a vocation and that it is their own decision. Shaffer (10) has stressed the importance of environmental factors in the vocational adjustment of the individual. Moser (6) in his study on high school students emphasized the role of certain cultural factors in vocational choice.

It has been found by a number of investigators (2, 4, 5, 7, 12, 13) that there are host of agents that shape and influence the vocational choice of adolescents. Father's educational level was found to be positively correlated with offspring's concern with choice. If the family is cohesive and if they share the interests and activities of the boys, then it is more likely that the boy's vocational choice will be influenced by the family, by the status he has in the family. The number of siblings and order of birth has also some influence upon his vocational choice. Again teachers, neighbours, friends, relatives and others exert a great deal of influence upon adolescent vocational choice. As Ginzberg has said, it is the accident of birth that determines to a great extent what occupation the individual will enter. Socioeconomic status, educational background of the parents and family's own stereotypes also determine the vocational choices. Parents' vocational aspirations, parental mobility, mobility of the family and cultural stimulation also have due influence upon vocational choice.

C. Biological Factors

Super found that intelligence was more important than age in determining vocational choice. Merely being older in age does not guarantee concern about vocational choice, acceptance of responsibility, specificity of information and planning for the preferred job. Whereas it has been found that intelligent students are more concerned about these things.

D. Other Factors

Rural-urban residence and religion may have some influence upon vocational choice. Rural boys and girls are less likely to be undecided than city boys and girls. There are controversial arguments about the influence of hobbies. Some people hold that hobbies have some influence while others do not support.

Super found that vocational maturity of 9th grade boys was not related to personality characteristics as measured by Murray's T.A.T., Rotter's Incomplete Sentences Blank, and Henderson's Test of Father Identification.

Achievements in various areas of activity, grades and school achievements are also related to wise vocational choice. Vocational choice should neither be thrust upon the adolescent nor be made on the basis of a single factor. Decisions should be individual's own. Adults should provide information and facts.

Indices of Vocational Maturity :

Super and Overstreet have identified a number of indices of vocational maturity. They are : concern with choice, acceptance of responsibility for choice and planning, specificity of information about the preferred occupation, independence of work experience, etc. As soon as we find these indications, we can say that the student is vocationally mature enough. He thinks the pros and cons of the choice. He develops a sense of responsibility so far as choice and planning are concerned. He wants to have very specific information about the preferred occupation. He weighs the information very well in terms of goals and objectives. His plans to enter preferred occupation are very specific in order to achieve maximum benefits with the least energy and time. He wants to minimize wastage of energy, time and floundering. If he had a chance to work at an independent level, he is more capable of making a wise vocational choice.

Suggestions :

Extensive studies on different aspects of vocational choice should be carried on in our culture to find out the factors that determine need for vocation, aims and objectives of the adolescents. Studies should also be done on sex differences in plans and aspirations. Planned counselling programme can play a very significant role.

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ACHIEVEMENT MOTIVATION AND SELF CONCEPT OF WORKING AND NON-WORKING WOMEN DIFFERING IN AGE AND EDUCATION

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ABSTRACT

The purpose of the present study was to see whether achievement motivation and social self concept differed among working and non working women. Z. Nahar's (1985) Achievement Motivation Scale and M. H. Kuhn's (1954) Social Self Scale were used to Measure Achievement Motivation and self concept. Working women were found to have higher achievement motivation than non-working women. Women having higher education were found to be higher in achievement motivation than those having lower education. Age on the other hand, was not found to be significantly related to achievement motivation. Secondly, social self concept did not vary significantly as a function of work status and education. However, subjects in younger age group were found to have higher social self concept than those of the older age group.

INTRODUCTION

Atkinson (1958) defined motivation as "the contemporary (immediate) influences on the direction, vigour, and persistence of action". The main concern of this study is a kind of specific acquired motive-the achievement motive. In the last part of 1940 a small group of psychologists including McClelland, Atkinson, Clark and Lowell (1953) carried out tests in this area of motivation and they have defined achievement motivation as a "learned, affective anticipation of the pleasurable consequences of success where the quality of efficiency of one's performance is to be evaluated".

According to this definition, therefore, the crucial point in scoring for achievement motivation is the detection of effect in connection with evaluated

performance. McClelland and his associates view the achievement motive as a relative stable predisposition to strive for success. More specifically achievement is defined as "behavior toward competition with a standard of excellence" (McClelland, et al. 1953). Achievement motive has been defined in terms of various ways self-actualization (Goldstein, 1939), self expansion (Angyal, 1941), self consistency (Lecky, 1945), competence (White, 1960) and ego integrative (Hilgard, 1953).

The relation between achievement motivation and behaviour warrants greater consideration within the life causes. Achievement motivation acquires more precise meaning and direction when examined within the context of life goals (e.g. vocational desires). Two goal frameworks (family centered domestic and career oriented) specify different lines of action for women's achievement concerns. The first entails achievement through marriage and parenting, whereas the second in values, achievement through education and work life. ... (Veroff and Felo, 1970). Home centered achievement predicted marital satisfaction and happiness, whereas career motivation predicted feelings that marriage place heavy restrictions on one's life.

French and Lesser (1964) brought life span concepts into their study by the use of questionnaire items that distinguished the traditionally oriented from the career oriented. Achievement-oriented women (high Ach) in the traditional groups did best on the social skills task when it was linked to success as a wife and mother. Career oriented women who ranked high on Achievement performed best on the intellectual task when it was tied to career advancement. The findings from both studies support a life-course hypothesis (Elder, 1975, 1981). The achievement thought and motivation of women are positively related to specific lines of action only when these actions confirm to a valued life course.

Some such concept as "self" or "ego" is essential to any account of man's social nature on the socialization process. Human beings characteristically act with self-awareness, exercise self control, exhibit conscience and guilt, and in the great crises of life make decisions with reference to some imagery of what they are, what they have been, and what they hope to be. However, research in this area suffers from the lack of an agreed upon definition of self-concept and the task of standardized measurement instruments (Shavelson, Hubner and Stanton, 1974), Shavelson et al., formulated a brand, comprehensive

definition of self-concept. According to Shavelon, self concept is an individual's perception of self formed through experience with the environment, interactions with significant others, and attributions of his or her own behaviour. They have recognized the importance of the reference group - a group to which a person belongs or aspires to belong in understanding self concept. Personality is what a man really is (Allport, 1937), self-concept—a self-image, by contrast, is what an individual thinks he or she is like (Epstein, 1973). Rosenberg (1977) stated that "the self concept is not the 'real self' but rather, the picture of the self". Thus it appears that changes in personality should result in changes in the self-concept and the failure to find age changes in the self concept could imply stability of personality. At some point in maturation, probably early adulthood, the self concept may become fixed (Mortimer, Finch, & Kumka, 1981). Although the premise of a crystallized self concept is consistent with a number of theoretical positions on the origin of the self, it is probably most meaningful in terms of social role conceptions of personality that date the establishment of clear identity in late adolescence (Erickson, 1950). Once articulated the forces of cognitive consistency act to maintain the self-concept that the young adult has formed of his or her self. Under this view it is possible to believe that personality could change dramatically with age without altering self-concept, and thus personality and self-concept might correspond closely among 20 year olds but be widely discrepant among 80 year olds. It is not surprising that longitudinal investigations have revealed that self conceptions and related psychological structures remain stable over periods as long as 35 years (e.g. Block, 1981; Costa & McCrae, 1980).

Women in Bangladesh generally play the role of housewives than being involved in income generating activities. However, in recent years the urban women are beginning to build up a career of their own. Since research on the psychological aspects of these women are limited it would be a matter of interest to see whether working and non-working groups differ in respect of achievement and self concept. If one spends one's time thinking about doing the job better, accomplishing something unusual and important, or advancing one's career, the psychologist says he or she has a high need for achievement. The present study investigated whether working women were higher in achievement and self-concept scores than non-working women. The study further investigated whether factors like education and age were related to achievement motivation and self-concept.

METHODS

The Sample

Eighty women were randomly selected and assigned broadly to two treatment groups—working and non-working. They were further divided on the basis of educational levels and age. The working women in this study were those holding official positions in institutions whereas the non-working group were housewives. The educational levels of the respondents were divided into two—lower education (Class IX to HSC level) and higher education (Bachelors and Masters Level). In terms of age they were classified in two groups—lower age group (age 17 to 32 years) and higher age group (age 33 to 54 years).

The Questionnaire

Items of the questionnaire on achievement motivation were taken from an unpublished work of Ziaun Nahar (1985). The achievement motivation questionnaire was validated by using the Bengali version of Edwards Personal Preference Schedule (Khanam, 1965). The validity coefficient of the achievement motivation questionnaire developed by Ziaun Nahar was found to be .43 and its test-retest reliability was found to be .42.

To assess Self-concept, a scale called Social Self Scale developed by M. H. Kuhn (1954) was used. It was a free response questionnaire where the respondents served their own items revealing whether they are more socially oriented or ego-centered persons. The questionnaire involved a single question, "Who am I?" The respondents were instructed to describe themselves by the help of 20 statements in response to the said question,

Procedure

Two types of questionnaires to measure achievement motivation and self concept of the respondents were employed. The respondents were approached personally by the author with a request that they would self administer the questionnaire. The questionnaire were collected later from the respondents on appointments.

Scoring

Responses on the achievement motivation items were scored 1 and 0 for achievement related and non-related items respectively. For scoring the self

concept, responses were categorized into three groups : (1) Socially oriented responses, (2) Ego-centered responses and (3) Poetic-responses. Scores of 2, 1, and 0 were ascribed to these three categories, respectively

RESULTS

The results of the Analysis of Variance for achievement scores indicate that achievement motivation varied significantly as a function of work status (Table 1). Working women were found to have high achievement motivation than non-working women ($F=10.65$, $df=1, 72$, $p < .01$). The results also show that education was significantly related to achievement scores. Women having higher education were found to be higher in achievement motivation than those having lower level of education. ($F=5.05$, $df=1 & 72$, $p < .05$). However, none of the interactions was found to be significant.

Table I

Summary of $2 \times 2 \times 2$ Analysis of Variable for Achievement Motivation scores of Respondents in respect of Work Status (A), Levels of Education (B), and Age Groups (C).

Source	SS	df	MS	F
Work Status (A)	74.12	1	74.12	10.65**
Education (B)	35.12	1	35.12	5.05*
Age (C)	2.82	1	2.82	0.41
Work Status \times Education (AB)	23.11	1	23.11	3.32
Work Status \times Age (AC)	2.11	1	2.11	0.30
Education \times Age (BC)	27.61	1	27.61	3.96
Work Status \times Educ. \times Age (ABC)	4.51	1	4.51	0.65
Within Cells	501.29	72	6.96	—

** Significant at the .01 level.

* Significant at the .05 level.

Secondly, the results show that self concept did not vary significantly as a function of work status and education (Table 2). However, younger subjects were found to have higher social self concept than the older subjects ($F=9.1$, $dt\ 1,72$ $p < .01$). None of the interactions was found to be significant.

Table 2

Summary of $2 \times 2 \times 2$ Analysis of Variance for Self-Concept scores of respondents in Respect of Work Status (A), Level of Education (B), and Age Group (C).

Sources	SS	df	MS	F
Work Status (A)	66.62	1	66.62	1.93
Education (B)	25.32	1	25.32	0.74
Age (C)	316.05	1	316.05	9.18**
Work Status \times Education (AB)	0.61	1	0.61	0.02
Work Status \times Age (AC)	63.01	1	63.01	1.83
Education \times Age (BC)	52.81	1	52.81	1.53
Work Status \times Education \times Age (ABC)	38.38	1	38.38	1.11
Within Cells	2479.7	72	34.44	—

**Significant at the .01 level.

DISCUSSION

It appears that working women are higher in achievement motivation than non-working women. Such results were expected as work itself is important in the lives of individuals for several reasons. A working woman receives some form of reward extrinsic and intrinsic in exchange for her services. She is exposed to modern themes and amenities of life which lead her to high expectation. We know that work can be an important source of identity, self-esteem and self-actualization. It can provide a sense of fulfilment by giving the working women a sense of purpose and by clarifying her value to society.

Secondly education was found to be significantly related to achievement motivation, subjects having higher education were found to be higher in achievement motivation than those having lower education. A person's level of education is often a source of status, or rank, in society at large. Researches by McClelland (1953), Atkinson (1950) and others have revealed that a person with high achievement motivation is very acquisitive and status seeking as compared to persons of low achievement motivation. Moreover, we know that achievement motivation is a secondary or learned motive. It is also known as the social motive because it originates in social group, especially during the process of socialization. Highly educated women in our society also have higher expectation which in turn leads them to a situation where there is challenge. As such, they are likely to be more achievement oriented than those with lower level of education. The definite effect of education on the development of the achievement motivation has also been found by Ali (1979). Thus it may be said that both work status and education are important determinants of achievement motivation. Veroff and Felo (1970) also revealed that career oriented women value achievement through education and work life whereas family centered domestic women entail achievement through marriage and parenting. French and Lesses (1964) in their study reported that achievement oriented women in the traditional group did best on the skills when they were related to success as a wife and mother. Career oriented women who ranked high on achievement performed high on the intellectual task when it was tied to career advancement.

Thirdly, age was not found to be significantly related to achievement motivation. This implies that perhaps there is no particular period of one's life where achievement motivation reaches at its best. However the present study did not cover all the age groups to make any conclusive statement in this regard.

The other aspect of the study—self-concept did not vary significantly as a function of work status. However the mean of the social self concept scores of the non-working women (the housewives) tended to be higher than that of the working women, though the difference was not significant. This finding points to the fact that the housewives (all of whom were urban in this study) are no less social than the working women. This is perhaps due to the fact that today our urban housewives are no longer traditional housewives.

They do not always stay home to perform household activities, rather they involve themselves in various activities in the society. Some of them are found to be members of various social and cultural organizations. Moreover, daily marketing, taking their children to schools, visiting friends and attending social functions etc. are supposed to have contributed to the self concept of non-working women. In a word, work status did not produce any differential effect upon social self-concept score which presumably is determined by many factors of social living.

The results also indicated education to be non-significant in determining social self concept. But age was found to be an important factor for the development of self-concept. Women of lower age group were found to score higher Self-concept. A reason for this may be that in case of younger group the process of socialization was active as they were going through the stage of adolescence and early adulthood. The older group was more or less settled in their lives and were not going through as much changes as the younger group. However further studies of intensive nature are required to explore the effect age on social self concept.

In short, work status and education were found to be important determinants of achievement and not of social self concept.

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**THE EFFECT OF SOCIAL CATEGORISATION AND CLASS
ORIENTATION ON INTERGROUP DISCRIMINATION :
AN EMPIRICAL INVESTIGATION IN
BANGLADESH CONTEXT.**

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ABSTRACT

The present study was designed to investigate the phenomena of ingroup favouritism and outgroup discrimination as effected by social categorisation in the real life social settings of Bengali Muslim and Bengali Hindu contexts in Bangladesh. The cross-category memberships of Bengalis on religious divisions and social stratification were manipulated. The broad objective of the study was that in the absence of obvious interpersonal attractions and interdependence for economic gains, the categorised Ss would reveal shared identification in terms of some distinctive attributes emerging from religious distinctiveness leading to positive social identity. Thus two hypotheses were formulated. First, the categorisation of Bengalis on the religious dimensions of Muslims and Hindus would result in favouritism for own group and discrimination for reciprocal outgroups. Secondly, class categorisation in terms of socio-economic status would be less effective in comparison to religious categorisation in the formation of positive social identity of Bengalis. The sample was composed of 180 male students between the ages of 20 to 25 years and were equally divided into Muslims and Hindus. Each group was again subdivided into High, Middle and low social class categories. The results confirmed both the hypotheses. Moreover, the study suggests that some people, perhaps those who share cross category membership tend to reveal lower intergroup discrimination. Finally, the study points to the dire need for interdisciplinary research in a number of cultures taking into account the wider sociostructural and ideological factors operating in the communities spreading over the different regions of Bangladesh.

INTRODUCTION

It is widely held in social Psychology that interpersonal attraction (Cartwright and Zander, 1968) is the primary Psychological basis of group formation.

The concept of group Cohesiveness, the degree to which members want to remain in the group is generally equated with attraction to the group (Lott and Lott, 1965). Thus the major empirical determinants of group cohesiveness in term of proximity, social interaction, cooperative interdependence, similarity, group climate or shared success have all been claimed as the crucial independent variables for the formation and internalization of intergroup attitude. This traditional view of intergroup relations further states that without at least a minimal attraction of members to each other, a group cannot exist at all and that attraction emerges from the interdependence of members for the mutual satisfaction of their needs. This theoretical approach in the study of intergroup relation seems inadequate to identify the factors that are particularly relevant to the emergence of minority group consciousness and large-scale social category memberships. Recent experimental studies (Tajfel et al. 1971, Brewer 1979, Turner, 1980, Turner et al. 1983) have demonstrated that a major aspect that has been neglected by the traditional theorists of intergroup relations in the process on group formation is the concept of external designation. A good number of well-designed laboratory experiments (Billing and Tajfel, 1973, Brewer and Silver, 1978; Turner, Sachdev and Hogg, 1983) were able to impose social categorisations upon people in isolation. They divided the subjects into two distinct groups on the basis of trivial ad-hoc criteria. There was no group goals or other links between self-interest and group memberships. There was no social interaction within or between groups and group membership was completely anonymous. The basic finding of these studies seems to indicate that ingroup favouritism and outgroup discrimination are products of social categorisation.

It is thus argued that psychologically significant group memberships sometimes develop because people are defined by others as members of socially relevant categories and are treated in a nomogeous fashion on the basis of their inclusion within the category. In other words, the laboratory mainpulations revealed that an imposed, external and often discriminatory consensus sometimes seems able to elicit a subjective acceptance of the group membership vis a vis self-defining social categorisations in the process of group formation. The present study is an attempt to replicate laboratory findings in actual real life settings of Bangladesh context.

DISCUSSION

It is a truism that Bengalis are divided into two broad social categories such as Muslims and Hindus based on religious distinctiveness. This categorisation is

further substantiated by socio-economic stratification leading to the emergence of high, middle and low status groups. Thus religious category and class category of Bengalis are viewed as the basis of social discrimination. Once conceived in this sense of cross-category membership (e.g. Deschamps and Doiss 1978), it appears that religious and class categorisations of Bengalis would constitute necessary and sufficient conditions for intergroup discrimination simultaneously at the cognitive, evaluative and behavioural levels of functioning. It is, therefore, not impossible to say that in the absence of obvious interpersonal attractions and interdependence for economic gains, the categorized subjects would reveal shared identification in terms of some distinctive attributes emerging from religious made. First, the categorization of Bengalis on the religious dimensions of Muslims and Hindus would result in favouritism for own-group and discrimination for reciprocal outgroups. Secondly, class categorisation in terms of socio-economic status would be less effective in comparison to religious categorisation in the formation of positive social identity of Bengalis.

METHOD

Sample

One hundred and eighty under and post-graduate male students between the ages of 20 to 25 years from Rajshahi University and Rajshahi Govt. College participated as subjects (Ss) first, for self evaluation, second for own-group evaluation and third, for outgroup evaluation. These three evaluations were done separately at the interval of a week in order to avoid responses set of the Ss. The instructions for the test was as follows (English rendering).

"Following you will see a list of adjectives that are usually used for evaluating a person or a group. Please read these adjectives carefully and say how far each adjective is true or false for SELF/OWNGROUP/OUTGROUP by giving a tick mark (✓) on the blank space given against each adjective ranging from totally true to totally false. Remember, there is no right or wrong answer".

Materials

A 22 item adjective check list was used for measuring own-group and out-group evaluations. Eleven of these items were positive adjectives and the remaining eleven were negative adjectives. These adjectives were selected after

preliminary openended interviews with Ss of the two communities. The split-half reliability was computed with odd and even members and the Spearman's was found .49. When Spearman-Brown Prophecy formula was applied, the correlation was found to range from .49 to .66 indicating high reliability of the test.

RESULTS AND INTERPRETATIONS

The data were analysed by calculating the scores for positive and negative adjectives separately. Ss were asked to evaluate each adjective for self, owngroup and outgroup preferences on a five point scale ranging from totally true to totally false and responses were coded accordingly on three categories of self, owngroup and outgroup evaluations. A discrepancy score was worked out by subtracting a positive score from a negative score on each item. A high score with plus (+) sign indicated more positive evaluation and a high score with minus (-) sign indicated more negative evaluation for the respective categories. In order to obtain statistical significance of the effects of independent variables, 'd' scores were subjected to a 3x3x2 factorial ANOVA involving three levels of socio-economic status (high/middle/low), three levels of evaluation (self/owngroup/outgroup) and two levels of ethnic group composition (BM/BH).

Table-1

Summary of Factorial ANOVA involving SES, Evaluation and Ethnic Group Composition.

Sources	df	MS	F
SES (A)	2	451.92	2.88
Evaluation (B)	2	12031.05	76.73**
Ethnic group composition (C)	1	2180.05	13.9**
AB	4	44.12	0.28
AC	2	258.58	1.65
C	2	1136.85	7.25**
ABC	4	329.34	2.10
Within group	522	156.79	

**p<0.01

The results (Table 1) indicated that main effects for evaluation ($F=76.73$, $df=2,522$; $p < .01$) and ethnic group composition ($F=13.9$, $df=1,522$; $p < .01$) were statistically significant.

A two-way interaction between evaluation and ethnic group composition ($F=7.25$, $df=2,522$ $p < .01$) was also found statistically significant.

Main Effect

Evaluation :

The results (Table 2) showed that regardless of SES and ethnic group composition, self ($\bar{X}=24.6$) was evaluated significantly more positively than outgroup ($\bar{X}=20.49$), the own group was also evaluated more positively than outgroup ($\bar{X}=8.84$) and finally the self was also evaluated more positively than the outgroup. Thus the results seem to indicate a higher self-own differentiation. But both self and own group were highly evaluated as compared to outgroup resulting in intergroup discrimination.

Table-2

Overall Mean Scores and Significant Mean Differences of Evaluation,

Self	24.6s
Own group	20.49b
Outgroup	8.84c

Note : Common subscripts do not differ significantly.

Common-value : self-own = 3.37**

Self-out = 12.71**

Own-out = 8.96**

** $P < .01$, $df = 179$.

Ethnicity

Comparisons across ethnic group composition (Table 3) revealed that regardless of SES BH ($\bar{X} = 19.99$) showed a significantly higher positive evaluation as compared to BM ($\bar{X} = 15.97$) indicating a greater effort of intergroup differentiation on the part of BH.

Table-3:

Overall Mean Scores of Ethnic Group Composition.

	BM	BH
	15.97	19.29

Interaction**Evaluation X Ethnicity**

An inspection of mean scores and their significant mean differences (table 4) revealed that BM Ss showed significantly highest positive evaluation for self ($\bar{X} = 21.88$) followed by own group ($\bar{X} = 16.4$) and least for outgroup ($\bar{X} = 9.62$).

Table-4

Cell Means and Significant Mean Differences Representing Two-way Interaction between Evaluation and Ethnic Group Composition

	BM	BH
Self	21.88s	27.32d
Own group	16.4b	24.58d
Outgroup	9.62c	8.06c

Note : Common subscripts do not differ significantly.

t-value BH : Self—own group = 3.06**

Own—out = 7.66* self—out = 4.08**

BH Own—out = 11.53** Self—out = 9.23**

** $P < .01$ df = 89, Self : BM — BH = 3.3**

Own group : BM — BH = 4.49

BH Ss on the other hand, showed significantly highest positive evaluation for self ($\bar{X} = 27.32$) and own group ($\bar{X} = 24.58$) as compared to outgroup ($\bar{X} = 8.06$). No significant differences was obtained between self and own group evaluation.

A comparison between ethnic group composition revealed that BH Ss showed higher self and own group evaluations than the BM Ss. Alternately stated, the

minority group (i.e. BH) evaluated self and owngroup significantly more positively than the majority group (i.e. BM). Furthermore minority group displayed lower outgroup evaluation than the reciprocal evaluation by the outgroup majority. In other words, BM—BH outgroup evaluation did not achieve statistical significance indicating a uniform low outgroup reciprocal evaluation. Thus it seems to indicate that ethnic group composition of Bengalis as Muslims and Hindus on the basis of religious distinctiveness resulted in owngroup favouritism and reciprocal outgroup discrimination.

CONCLUSION

The present study represented a social psychological approach to the general area of intergroup behaviour specifically with reference to social categorisation, class orientation and intergroup discrimination of Bengali Muslim and Bengali Hindu Ss in Bangladesh context. The Bangladesh context of Hindu-Muslim intergroup relations offers a somewhat unique intergroup context wherein two ethnic groups share a common racial, cultural and linguistic history but have been categorised by religious distinctiveness and shifting status relation due to historical, economic, political and social change. This unique social situation was thought appropriate for testing the hypothesis formulated for the present study. The results obtained provided empirical supports to both the hypotheses. It was found that all Ss regardless of SES and ethnicity evaluated self and owngroup significantly more positively as compared to outgroup. This finding seems to reflect the basic components of categorization phenomenon involving ingroup favouritism and outgroup discrimination. It is worth noting that there is no evidence of conflict and mutual hatred among the Ss irrespective of their religious group belongingness. To the contrary, general observations sufficiently establish the social reality that the members of both the religious groups cooperate with each other in their social interactions for the mutual benefits. Nevertheless when the Ss were categorized on the level of religious distinctiveness, they showed ingroup favouritism and outgroup discrimination. Thus the first prediction that the categorization of Bengalis on the religious dimensions of Muslims and Hindus would result in favouritism for owngroup and discrimination for reciprocal outgroups was confirmed. This is exactly in the same line of several research findings. Billing and Tajfel (1973) demonstrated

that discriminatory effect does not depend upon criterial classification (for example, similarity, group climate or shared success) but is obtained even when division into groups is explicitly random. Other studies illustrate the same findings that social categorization per se also causes perceptual and attitudinal biases and differential attraction to ingroup members (Brewer and Silver, 1978; Turner, 1978; Brown and Turner, 1979). In the context of these theoretical orientations and on the basis of empirical evidence of the present study it might be argued that there are social psychological processes intrinsic to or stimulated merely by ingroup-outgroup divisions which tend to create discriminatory social relations.

The findings on SES are equally interesting, albeit less contentious in interpretation. The main effect for SES was found non-significant indicating a somewhat less effectiveness in influencing categorization processes on the level of class status. In other words, regardless of ethnic group compositions socio-economic status of the Ss failed to reflect discernable discriminatory behaviour involving ingroup-outgroup bias in the attributional process of behavioural characteristics. Thus when religious distinctiveness was not considered, SES per se was ineffective in eliciting intergroup discrimination. One possible interpretation for this finding might be that social structure in Bangladesh is tradition oriented where religious faith has been institutionalised at the expenses of class consciousness in its pure economic sense. This underlies the contention that value system of the Ss in which they are exposed is capable to exert enormous influence in categorization processes leading to self esteem and group distinctiveness in the formation of positive social identity. These empirical evidence and theoretical supports provide confirmation to the second prediction of the present study that class categorization in terms of socio-economic status would be less effective in comparison to religious categorisation in the formation of positive social identity of Bengalis.

There are, however, certain distinctive features of the results which merit special attention. Firstly, overall mean scores for evaluation indicated higher self-owngroup differentiation. Secondly, BH Ss showed higher positive evaluation than BM Ss indicating greater intergroup differentiation. Thirdly, significant interaction involving evaluation and ethnicity indicated that minority group (i.e. BH) displayed lower outgroup evaluation than reciprocal evaluation by outgroup majority (i.e. BM). These findings are interpretative on several research

evidence which show that under condition of cross-category membership (Tajfel, 1974), group distinctiveness is lowered. Individual in interaction are less likely to respond in inter-ethnic terms if they share several group membership and differ only ethnically (Coser, 1956; Evanspritchard, 1940; Simmel, 1955). In this cognitively complex situation, individuals may tend to act in terms of a simple psychological dichotomy based either on their shared group memberships or on their different ethnic group membership (Brown and Turner, 1979). The Hindu-Muslim social comparisons in the present study presented cross categorisation in terms of multiple group membership. Thus in the case of the majority group, Ss lower group distinctiveness from reciprocal outgroup was indicated. It is therefore suggested that in a given context of Bangladesh cross-category memberships in terms of language and cultural tradition resulted in not only lower intergroup differentiation but also positive outgroup evaluation indicating the saliency of linguistic and social categorisation over religious distinctiveness (Huq, 1985, 1984; Ghose & Huq, 1985).

In conclusion, this study has high-lighted the effects of social categorisation and class orientation on intergroup discrimination. The results draw attention to the fact that at a particular point in time in a given social context categorisation process may be selective depending on value orientation and culturation of the people, perhaps those who share cross-category membership tend to reveal lower intergroup discrimination. Finally, this study points to the dire need for interdisciplinary research in a number of cultures taking into account the wider sociostructural and ideological factors operating in the communities spreading over the different regions of Bangladesh.

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PATTERNS OF ADOLESCENT SELF-IMAGE IN BANGLADESH

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ABSTRACT

The purpose of this study was to find out empirically the possibility of existence of stress and turmoil among the normal adolescents of Bangladesh. For the purpose, 392 adolescents ranging between 13 and 19 years of age were tested with the Offer Self-Image Questionnaire (OSIQ) for adolescents. Results indicate that vast majority of the adolescents in Bangladesh are well adjusted, have good relations with their families and friends and accept the values of society. They can also cope with the internal and/or external world in a superior fashion. Psychologically the adolescents are moderately adjusted with good impulse and emotional control. However, in sexual attitudes, most of the adolescents are moderate to highly conservative.

INTRODUCTION

Understanding adolescents' self has been a great concern to the developmental psychologists. This self of the adolescent can be understood by considering how adolescents view themselves. The adolescent's or teenager's opinion about himself is one more fact about that "self" rather than a definitive pronouncement about its reality (Offer et al., 1981a). By the way of discovering self, psychologists always stand outside as observer and rely mostly on inferences from behaviour. Thus, most of the views on adolescents and their selves came forward on the basis of psychoanalytic principles and observing abnormal individuals who visited clinics for treatment (Gardner, 1959). Theoreticians and clinicians as well as patients have tended to assume that adolescence in itself is psychologically so loaded that, even under the best circumstances turmoil can be expected (Offer et al., 1981b). Besides, it was a common belief of the eminent psychologists, right from the beginning of this century, that adolescence is a time of storm and stress (Hall, 1904, A. Freud, 1958; Blos, 1962; Deutsch, 1967).

Theoretical work has pointed to the importance of self during adolescence (Erikson, 1950). In order to understand this self of the normal adolescents few empirical studies are available. Thus, the prevalent view that the adolescence is a time of great stress and turmoil has been retained as recently as 1980 (Rabichow and Sklansky, 1980). Now the question arises, whether this time of life is inherently tumultuous. By the attestation of certain developmental studies on normal adolescents (Douvan and Adelson, 1966, Offer and Offer, 1975, Rutter and others, 1976) it was becoming apparent that turmoil is relatively uncommon. Therefore, attempts were made to study how far this turmoil is present among the normal adolescents (Offer et al. 1981a, Offer et al., 1984). In their studies Offer and others observed that the vast majority of the adolescents in the United States and other countries are well adjusted, have good relation with their families and friends and accept the values of society. Similar studies are also available in different countries conducted on the basis of same principle as derived by Offer and his colleagues. In order to verify the existence of such stress and turmoil in themselves of the adolescents of Bangladesh the study has been replicated by adopting the same Test (Offer Self-Image Questionnaire, OSIQ) and technique (Offer et al., 1982).

Self-Image : Definition and Construct

The term self as is used here means only the observed person's phenomenological experience of self, the "Me". Theorists like Wylie (1974) and Rosenberg (1979) also defined the term in the same way. Kelly (1963) thought it to be a way of thinking about an object that happens to be one's self, Rosenberg (1979) also thought it as an attitude as because of its stability over time and situation, he later defined self-image as "The totality of the individual's thoughts and feelings having reference to the self as an object". Therefore by adopting this definition various aspect of an individual such as his psychological feeling, social thoughts, familial thoughts etc. can be considered as self-image. Patersen (1981) used the term self-concept and self-image interchangably to a phenomenological organization of individuals' experience and ideas about themselves in all aspects of their life. Self image is generally conceptualized on a positive-to-negative continuum and it approaches to the measurement of multidimensionality of various domains of life.

Purpose of the Study

The purpose of this study was to determine whether the old concept of

disturbance in self-image, the stress and turmoil, is an integral part of adolescence among the teenagers of Bangladesh.

The Bengali version of the Offer Self-Image Questionnaire (OSIQ) was administered to the students of classes IX to XII taken from three secondary schools (two boys and one girls) and two colleges (both boys and girls). All these five institutions were situated in urban areas in Dhaka and neighbouring district of Tangail. The schools and colleges were selected on the basis of a priori judgement where majority of the students come from middle to upper middle classes. While administering the OSIQ in each school or college about 85 to 90 percent of the students in each class were found present and the questionnaire was administered to all of them. Necessary explanations and instructions were given to the students as per the OSIQ Manual. The filled in answer sheets were then scrutinized and the incomplete or faulty responses were rejected. A total of 362 answer sheets of the subjects were found valid for final scoring. The subjects were classified into two groups as younger adolescents, within the age range of 13 to 15, and the older adolescents, within the age range of 16 to 19 years.

The Questionnaire

The OSIQ was originally developed by Offer and Sabshin (1963) and later developed by Offer et al., (1981a). The test was originally devised with two assumptions, that it would evaluate functioning in multiple areas of teenagers life of which one can be mastered by them while failing to adjust in another, and second, that the psychological sensitivity is sufficiently acute to provide valid self description (Offer et al., 1982). The test was translated into Bengali and then translated version was translated back into English and was checked for its accuracy and modified.

The OSIQ consisted of 130 items covering eleven areas of adolescent life called scales. The eleven scales and their corresponding number of items are as follows :

No.	Title of the Scale	No. of Items
1.	Impulse Control	10
2.	Emotional Tone	10
3.	Body and Self-Image	10
4.	Social Relationships	10
5.	Morals	10
6.	Sexual Attitudes	10
7.	Family Relationships	20
8.	Mastery of the External world	10
9.	Vocational and Educational Goals	10
10.	Psychopathology	15
11.	Superior Adjustment	15

Every item consisted of a six point scale ranging from one to six. Such as : Describes me very well, corresponds to one; Describes me well, corresponds to two; Describes me fairly well, corresponds to three ; Does not quite describe me, corresponds to four; Does not really describe me, corresponds to five ; and finally Does not describe me at all, corresponds to six. Thus the lowest score on the item implies the superior adjustment and the highest score indicate poor adjustment. In order to eliminate the response bias i.e., similar response to all items, positive and negative statements were adopted.

RESULTS

The results of the study have been furnished under the title of five selves of the adolescent, namely : the Psychological Self, the Social Self, the Sexual Self, the Familial Self and the Coping Self. All the 130 items of the test cover these five selves comprise the eleven scales of OSIQ. Each group of scales describes a specific self. Results are computed in terms of the percent of the respondents' endorsement i.e., 'Describes me very well', 'Describes me well' and 'Describes me fairly well', for each item or statement. Comparative analyses of the responses are shown between the younger and older adolescents and between the sexes of either groups.

The Psychological Self

The psychological self comprises the adolescent's concerns, feelings, wishes and fantasies. Three scales constituting this self are Impulse control, Emotional

tone and Body and self-image, which concern teenager's sense of control over impulse, the emotions, their experiences and conception of their own body.

Results indicate that in the scale of Impulse control majority of the adolescents have good control over their impulses. Out of the nine items five statements indicate better adjustment among the majority of the adolescents. Vast majority of these normal teenagers reported to have good control over themselves. They can remain calm under pressure and can keep even temper most of the time. Besides, more than 50 percent of the adolescents carry many grudges and fits of feelings which they are unable to control. However, this sort of feeling may be considered to be the characteristics of normal adolescents which do not result from stress and turmoil as supported by the other statements. Age difference is prominent with better adjustment among older group. Gender differences indicate girls are poorly adjusted than the boys as a whole (Table 1).

Table-1
The Psychological Self

I. Impulse Control: Percent Endorsement by the Adolescents

Item No.	Items	Younger		Older		Both		Group	
		M	F	M	F	M	F	M	F
1. I carry many grudges		68	60	64	70	66	65		
8. I "lose my head" easily.		32	53	32	50	32	51		
17. At times I have fits of crying and/or laughing that I seem unable to control.		58	70	63	68	60	69		
34. I can take criticism without resentment.		67	58	69	64	68	61		
50. I get violent if I don't get my way.		58	68	67	55	62	62		
59. Even under pressure I manage to remain calm.		64	62	68	75	66	68		
69. I keep an even temper most of the time.		71	66	77	73	74	69		
81. I fear something constantly.		39	40	41	46	40	43		
123. Usually I control myself.		79	77	83	85	81	81		

In the scale of Emotional tone, most of the statements indicate that majority of the adolescents are well adjusted to their emotional world also. Large majority of the teenagers express they are happy and can enjoy life, seldom they feel sad and lonely. The most of the adolescents do not think that they are inferior to others. Only less adjustment in their emotional tone is that they feel tense most of the time and their feelings are easily hurt. In a few statements age and sex differences were largely observed, such as, younger adolescents are less tense and anxious than the older adolescents and in either group girls are more tense and anxious than the boys. On the other hand the younger group enjoy life more than the older group and in the younger group the girls seem to be happier than the boys while in the older group boys are happier than the girls (Table 2).

Table—2

II. Emotional Tone : Percent Endorsement by the Adolescents

Item No.	Items	Younger		Older		Both Group	
		M	F	M	F	M	F
12.	I feel tense most of the time	52	62	62	74	58	67
23.	I feel inferior to most people I know.	34	32	31	33	33	32
32.	Most of the time I am happy.	78	81	77	80	77	81
38.	My feelings are easily hurt.	60	78	59	80	59	79
44.	I feel relaxed under normal circumstances.	42	37	34	43	38	40
54.	I am so very anxious.	42	49	40	55	41	52
66.	I feel so very lonely.	41	45	32	52	37	48
68.	I enjoy life.	70	78	66	60	68	69
100.	Even when I am sad I can enjoy a good joke.	66	56	70	53	68	55
130.	I frequently feel sad.	30	40	27	49	29	44

So far the Body and self-image is concerned, the adolescents are found well adjusted with their recent body change and self-image. Majority of the teenagers are proud of their body and satisfied with the changes in the body. Few of them feel that they are ugly and unattractive. Large majority of the teenagers are also satisfied with the future picture of themselves. Agewise it is observed that in the recent past younger adolescents are less worried about their health than the older adolescents but both the groups are equally satisfied with their recent changes. The satisfaction in boys is much more higher than the girls (Table 3).

Table 3

The Psychological Self Image

III. Body and Self-Image : Percent Endorsement by the Adolescents

Item No.	Items	Younger		Older		Both Group	
		M	F	M	F	M	F
6.	The recent changes in my body have given me some satisfaction.	18	54	79	54	80	54
27.	In the past year I have been very worried about my health.	59	46	68	52	63	49
42.	The picture I have of myself in the future satisfies me.	87	85	90	88	88	86
57.	I am proud of my body.	68	59	55	52	62	56
72.	I seem to be forced to imitate the people I like.	61	70	65	58	63	64
82.	Very often I think I am not at all the person I would like to be.	38	55	51	70	44	62
90.	I frequently feel ugly and unattractive.	37	30	33	49	35	39
94.	When others look at me they must think that I am poorly developed.	28	29	33	29	31	29
99.	I feel strong and healthy.	54	47	41	50	48	49

The Social self

The social self of the adolescents are often described in terms of the friend they have, the company they keep and the values they hold. The social self of the adolescents, are measured by the help of three scales such as, Social relationships Moral attitude and Vocational-educational goals.

The scale of Social relationship assesses object relationship and friendship patterns. In this scale out of nine statements all indicate adolescents' superior social adjustment such as, large majority of the teenagers think that other people like them and very few of them tend to mind to being corrected by other as they can learn from it. Majority of them can enjoy any public gathering and do not find any difficulty in making friendship. However, age and sex differences are not very prominent which indicates that both the boys and girls are more or less equally adjusted in social relationship (Table 4).

Table—4

IV. Social Relationships: The Social Self
Percent Endorsement by the Adolescents

Item No.	Items	Younger		Older		Both Group	
		M	F	M	F	M	F
13.	I usually feel out of place at picnics and parties.	34	29	35	33	35	31
52.	I think that other people just do not like me.	28	32	31	17	29	25
65.	I do not mind being corrected since I can learn from it.	90	99	97	98	93	99
62.	I find it extremely hard to make friends.	33	32	31	25	32	29
75.	I prefer being alone than with other kids my age.	20	27	24	32	22	29
86.	If others disapprove of me I get terribly upset.	57	60	58	71	57	65
88.	Being together with other people gives me a good feeling.	90	82	78	85	84	83
113.	I do not have a particularly difficult time in making friends.	63	75	69	70	66	73
124.	I enjoy most parties I go to.	80	84	87	89	83	86

Regarding the Morals of the adolescents it is found that majority of the respondents have good morals in the context of their social self. Out of ten statements of the moral scale in seven items good majority of the adolescents expressed their high moral values. For example large majority of them do not endorse the item "Telling the truth means nothing to me", and they deny that they do not care how their actions affect others. Age difference in morality is not very prominent but the sex difference in both the senior and junior group is clearly significant with stronger moral values in females (Table 5.)

Table—5

The Social Self

V. Morals : Percent Endorsement by the Adolescents

Item No.	Items	Younger		Older		Both group	
		M	F	M	F	M	F
5.	I would not hurt someone just for the 'heck of it'.	62	69	58	65	60	67
30.	I would not stop at anything if I felt I was done wrong.	78	84	79	80	78	83
40.	I blame others even when I know I was at fault.	31	18	29	20	30	19
48.	Telling the truth means nothing to me.	15	31	21	24	18	28
67.	I do not care how my actions affect others as long as I gain something.	36	17	23	10	30	14
74.	For me good sportsmanship in school is as important as winning a game.	67	79	62	70	64	75
83.	I like to help a friend whenever I can.	89	96	90	92	89	94
92.	If you confide in others you ask for troubles.	41	53	60	58	51	55
116.	Eye for an eye and tooth for tooth does not apply for our society.	40	52	42	52	41	52
120.	I would not like to be associated with those kids who 'hit below the belt'.	69	84	85	88	76	86

In the scale of Vocational-educational goal an overwhelming majority of the teenagers depict that they possess high values for vocational and educational goals. Large majority of the adolescent indicated their seriousness to work and they are sure that they will be proud of their future profession. An overwhelming majority of the respondents endorsed the item "A job welldone gives me pleasure", which shows the work ethic in its purest form. Result indicates that age and sex difference in responses are negligible i.e., both the boys and girls hold more or less the same attitude towards the vocational-educational goals (Table 6).

Table—6

The Social Self

VI. Vocational - Educational Goals : Percent Endorsement by the Adolescents

Item No.	Items	Younger		older		Both group	
		M	F	M	F	M	F
14.	I feel that working is too much responsibility for me.	76	73	87	78	81	75
20.	Only stupid people work.	9	13	9	10	9	11
37.	I am sure that I will be proud about my future profession.	82	84	78	67	80	76
46.	I would rather sit around and loaf than work.	12	19	21	22	16	20
58.	At times, I think about what kind of work I will do in the future.	95	93	96	89	95	91
63.	I would rather be supported for the rest of my life than work.	19	8	9	5	14	7
70.	A job well done gives me pleasure.	94	98	89	99	92	99
79.	I feel that there is plenty that I can learn from others.	88	93	89	90	88	92
104.	At times I feel like a leader and feel that other kinds can learn from me.	51	50	43	52	47	51
115.	School and studying mean very little to me.	40	21	31	15	36	18

The Sexual Attitudes

The Sexual attitude scale of the sexual self intends to measure the adolescent's feelings, attitudes and behaviour towards the opposite sex. The general findings of this scale show that normal adolescents are not afraid of their sexuality. Nearly three forth of the adolescents do not think that "The opposite sex finds me a bore". Even more than three fourth of the adolescents conceive that they are sexually quite fit. Large majority prefers to have a friend of opposite sex. However, the younger adolescents are little more conservative in sexual behaviour than their older counterparts. And the girls in both the groups seem to be more conservative than the boys (Table-7).

Table-7

The Sexual Self

VII. Sexual Attitudes : Percent Endorsement by the Adolescents

Item No.	Items	Younger		Older		Both group	
		M	F	M	M	M	F
10.	The opposite sex finds me a bore.	30	27	29	18	29	22
16.	It is very hard for a teen. ager to know how to handle sex in a right way.	50	61	63	75	56	67
28.	Dirty jokes are fun at times.	33	23	45	32	39	27
77.	I think girls/boys find me attractive.	56	68	69	60	62	65
80.	I do not attend sexy shows.	61	60	48	75	54	67
91.	Sexually I am way behind.	29	31	25	16	27	24
97.	Thinking or talking about sex frightens me.	48	71	37	45	43	59
117.	Sexual experiences give me pleasure.						
119.	Having a girl/boy friend is important to me.	71	72	80	85	75	78
122.	I often think about sex.	28	20	45	27	36	23

The Familial Self

Adolescent's feelings about their parents, siblings and other relatives are the major concern of this scale, i.e., it measures the emotional atmosphere in the home. General findings in this scale indicate that large majority of the teenagers are well adjusted to their family they love their parents and their parents love them. The generation gap so often written about is not in evidence among the majority of the adolescents. They perceive their parents as being satisfied with them and they do not seem to possess any bad feeling towards their parents. There seems to have no significant difference between the selves of younger and older adolescents as well as the boys and girls as a whole (Table-8).

Table-8
The Family Self

VIII. Family Relationships: Percent Endorsement by the Adolescents

Item No.	Items	Younger		Older		Both group	
		M	F	M	F	M	F
4.	I think that I will be a source of pride to my parents in the future.	89	91	91	82	89	87
9.	My parents are almost always on the side or someone else, e.g., my brother or sister.	33	38	30	39	32	39
15.	My parents will be disappointed with me in the future.	12	9	9	12	11	10
21.	Very often I feel that my father is no good.	12	11	13	12	13	11
24.	Understanding my parents is beyond me.	27	25	26	21	27	23
26.	I can count on my parents most of the time.	74	72	84	74	79	73
51.	Most of the time, my parents get along with each other.	87	88	88	86	87	87

Item No.	Item	Younger		Older		Both group	
		M	F	M	F	M	F
55.	When my parents are strict, I feel that they are right even if I get angry.	83	91	87	81	85	87
60.	When I grow up and have a family, it will be in at least a few ways similar to my own.	49	58	48	37	49	49
64.	I feel that I have a part in making family decisions.	87	92	80	96	84	93
71.	My parents are usually patient with me.	87	95	88	91	87	93
73.	Very often parents don't understand a person because they had an unhappy childhood.	21	15	26	21	24	17
85.	Usually I feel that I am a bother at home.	16	18	18	16	17	17
87.	I like one parent much better than the other.	38	48	34	34	36	42
95.	My parents are ashamed of me.	9	6	8	5	8	6
102.	I try to stay away from home most of the time.	39	25	32	22	35	24
106.	I have been carrying a grudge against my parents for years.	14	15	11	18	13	17
112.	Most of the time my parents are satisfied with me.	89	85	75	85	82	85
118.	Very often I feel that my mother is no good.	14	6	11	9	12	7

The Coping Self

Every individual possesses certain amount of strength of adaptation. This adaptation or coping intends to adjust an adolescent's internal and/or external world by integrating all his psychological tools. This coping self has been determined with the help of three scales such as Mastery of the external world, Psychopathology and Superior adjustment.

In the scale of Mastery of the external world the adolescents tend to demonstrate their adaptive attitude towards the immediate environment. Result indicates that large majority of the respondents are well adapted to their working situation and are hopeful about their future. In their opinion an overwhelming majority of the adolescents agree that they can learn almost anything provided they put their mind. Also large number of teenagers indicated their commitment to work which in fact demonstrate their eagerness to achieve bright future. Very little differences is observed in the responses of older and younger adolescents and between sexes of either groups (Table-9).

Table-9

The Coping Self

IX, Mastery of the External World : Percent Endorsement by the Adolescents

Item No.	Items	Younger		Older		Both group	
		M	F	M	F	M	F
3.	Most of the time I think the world is an exciting place to live in.						
19.	If I put my mind to it, I can learn almost anything.	80	79	70	72	75	76
35.	My work, in general, is at least as good as the work of the guy next to me.	98	96	100	99	99	98
41.	When I want something, I just sit around wishing I could have it.	79	88	86	89	82	89
76.	When I decide to do something I do it.	41	45	37	41	39	44
103.	I find life an endless series of problems without solutions in sight.	78	85	86	78	82	82
105.	I feel that I am able to make decisions.	36	36	37	46	37	40
109.	I feel that I have no talent whatsoever.	90	86	90	86	90	86
128	I am fearful of growing up.	26	21	24	15	25	18
129.	I repeat things continuously to be sure that I am right.	19	27	10	15	15	22
		73	88	76	86	74	87

Overt and psychopathologic characteristics of the normal adolescents are determined by the scale of Psychopathology. Out of 14 psychopathological symptoms in almost 10 cases more than 50 percent of the adolescents denied that they have psychopathological symptom. However, a significant minority of the normal adolescents indicate some maladjustment in coping abilities. There seems to be very little difference in the responses of younger and older adolescents but gender difference is evident in either groups with poor adjustment in females than their male counterparts (Table 10).

Table-10
The Coping Self

X. Psychopathology : Percent Endorsement by the Adolescents

Item No.	Items	Younger		Older		Both		group
		M	F	M	F	M	F	
2.	I am afraid that someone is going to make fun of me.	29	37	23	27	26	33	
22.	I am confused most of the time.	31	51	42	54	36	53	
29.	I often blame myself even when I 'm not really at fault.	43	43	46	53	44	48	
31.	The size of my sex organs inormal.	86	89	85	90	86	90	
36.	Sometimes I feel so ashamed of myself that I juat want to hide in a corner and cry.	32	31	35	27	34	29	
45.	I feel empty emotionally most of the time.	41	36	36	41	39	39	
61.	I often feel that I would rather die than go on living.	29	48	27	47	28	48	
78.	Other people are not after me to take advantage of me.	41	47	45	43	43	46	
93.	Even though I am continuously on the go, I seem unable to get things done.	42	45	30	50	36	48	

Item No.	Items	Younger		Older		Both group	
		M	F	M	F	M	F
96.	I believe I can tell the real from the fantasttc.	66	62	68	49	67	56
108.	When I enter a new room I have a strange and funny feeling.	66	74	67	74	66	74
111.	When I am with people I am bothered by hearing strange noise.	53	45	52	52	52	49
126.	I do not have any fears which I cannot understand.	61	75	67	80	64	77
127.	No one can harm me just by not liking me.	74	75	74	74	74	75

The scale of superior adjustment in the coping self tends to measure how well the adolescent copes with himself and his world. Out of 14 items incorporated in this scale almost 12 items indicated that large to overwhelming majority of the normal adolescents are well adjusted to their world of superiority. For example more than 80 percent of the teenagers are not afraid of their competitive society and more than 90 percent of them try to rehearse in advance to meet their future situation. Large majority of the adolescents also denied that they do not enjoy solving difficult problems and most of them take it a challenge in dealing with new intellectual subjects. Age difference in the response indicates that the older adolescents are more adjusted to their superior self than the younger group. Similarly girls in each group show better adjustment than the boys (Table 11).

Table-II

The Coping Self

XI. Superior Adjustment: Percent Endorsement by the Adolescents

Item No.	Items	Younger		Older		Both group	
		M	F	M	F	M	F
11.	If I would be separated from all people I know, I feel that I would not be able to make a go of it.	53	76	59	73	56	75
25.	I do not like to put things in order and make sense of them.	25	10	20	10	23	10
39.	When a tragedy occurs to one of my friends, I feel sad too.	89	94	91	97	90	96
43.	I am a superior student in school.	91	94	95	90	93	92
49.	Our society is a competitive one, and I am not afraid of it.	82	85	87	85	84	85
53.	I find it very difficult to establish new friendships.	51	41	38	38	45	40
56.	Working closely with another fellow never gives me pleasure.	19	19	24	26	22	22
84.	If I know that I will have to face a new situation, I will try in advance to find out as much as possible about it.	90	95	93	89	92	92
89.	Whenever I fail in something I try to find what I can do in order to avoid another failure.	87	91	86	97	86	94
107.	I am certain that I will not be able to assume responsibilities for myself in the future.	20	9	13	18	17	13

Item No.	Items	Younger		Older		Both group	
		M	F	M	F	M	F
110.	I do not rehearse how I might deal with a real coming event.	38	49	34	35	36	43
114.	I do not enjoy solving difficult problems.	31	23	22	20	27	21
121.	Worrying a little about one's future helps to make it work out better.	81	92	92	95	86	93
125.	Dealing with new intellectual subjects is a challenge for me.	95	97	97	98	96	98

DISCUSSION

The psychological development of the normal adolescents was always regarded by most of the psychologists as well as clinical practitioner, since last hundred years, that adolescence is a period of turmoil, dramatic mood swings and rebellion (Hall, 1904; A. Freud, 1958; Eriksen, 1950). Actually the turmoil theory tends to show that the adolescents normally undergo significant disruption in their personality organization which ultimately leads to different tumultuous behaviour. Unfortunately this theory of stress and turmoil could not be based on vast empirical observation. Most of the data of this theory, as the psychologists acknowledge, came from the psychoanalysis and their abnormal patients. Even in recent literatures similar views about normal development of adolescents are expressed (Blos, 1967; DSM 3rd. ed, 1980).

This study was undertaken with a view to examine the existence of such tumultuous behaviour among the normal adolescents. Data suggest that large number of normal adolescents from a variety of backgrounds are characterized as confident, happy and self-satisfied. The responses to the test items reviewed in this study reveal a great deal about the phenomenology of adolescents grouped by age and sex. However, the data clearly indicate that vast majority of the normal adolescents are not in the theories of turmoil. Psychologically

the teenagers are quite sound, they have good control over their impulses and emotions and they are satisfied with their body and self-image. Significant minority of the adolescents who indicated their tension and dissatisfaction are not the total picture of normal adolescents, their reactions to the test items may be treated as situational and/or temporary.

The social behaviour of the adolescents studied here are not found chaotic as it was conceived by many psychologists. Most of the teenagers are well adjusted to society and family. The moral values among the adolescents are also found very high which is beyond the imagination of turmoil theory. Sexually, the adolescents are not perverted or possess any negative attitude towards sex. In addition, most report having adopted without undue conflict to the bodily changes and emerging sexuality brought on by puberty.

Coping with the adolescents' internal and external world focuses on the strength an individual possesses. Investigation into the inner entity of their selves clearly shows that large majority are well adjusted and face life situation with little fear and with a reasonable amount of confidence. Majority of the adolescents are also found to be free from any psychopathological symptoms.

Finally, data on self-image of a large number of Bangladeshi normal adolescents are generated in this study. Analysis of this data and comparing it with other variables like age and gender it can be concluded that the Bangladeshi boys and girls can neither be categorized as disturbed or tumultuous, rather they are happy, socially acceptable and well adjusted people.

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