CHAPTER - V

RESULT AND DISCUSSION

In view of the objectives of the present investigation, the results have been discussed in two parts. In the first part, results on the relationship of career maturity with grade and sex, are presented and in the following part, relationship of career maturity measures with other socio-psychological variables are discussed.

PART-I

CAREER MATURITY: A FUNCTION OF GRADE AND SEX

One of the objectives of the present investigation was to study the developmental pattern of career maturity measures during the higher secondary school years. Sex differences were examined to find out whether the development of career maturity varies by sex. Taking grade as an index of time, measures of career maturity (career choice attitudes and career choice competencies) have been assessed across three grade levels VIII, X & XII, for both boys and girls. The specific hypotheses underlying this objective (stated earlier in Chapter III) were:

1. Career maturity, expressed in terms of career choice attitudes (CCA) and career choice competencies namely; self appraisal (SA), Occupational information (OI), goal selection (GS), planning (PL) and

problem solving (PS) will tend to show an increase with increase in educational status in boys as well as girls.

2. Boys will tend to differ from girls in their maturity of career choice attitudes and career choice competencies at grade levels VIII, X and XII.

To study the above hypotheses, a 2 x 3 analysis of variance was computed with two factors being sex and grade. The sex factor had two groups; boys and girls, and grade factor had three levels; VIII, X & XII.

Tables V-1 shows the Means and SD's on all the six career maturity measures across three grades for the combined sample of boys and girls. Table V-2 and V-3 on the next page show, Means and SD's for boys and girls separately. The results of 2x3 analysis of variance are presented in Table V-4.

Table V-1

MEANS AND STANDARD DEVIATIONS OF SCORES ON
CAREER MATURITY MEASURES AT THREE GRADES.

Criterion	Grades					
	VIII N=293		X N=286		XII N=290	
	M	SD	M	SD	M	SD
CCA	28.72	5.62	32.24	5.89	33.39	6.16
SA	6.51	1.96	7.33	2.10	8.66	2.34
OI	7.28	2.44	8.35	2.23	9.23	1.90
GS	6.64	2.21	7.83	2.09	9.22	1.91
PL	5.30	2.65	6.16	2.89	7.74	2.85
PS	4.81	2.05	5.33	2.03	5.92	1.78

Table V-2

MEANS AND STANDARD DEVIATIONS OF SCORES ON
CAREER MATURITY MEASURES FOR BOYS AT THREE GRADES

	Grades					
	VIII		X		XII	
Criterion	N=151		N=150		N=137	
	M	SD	M	SD	M	SD
CCA	28.52	5.50	32.48	5.89	34.34	6.28
SA	6.23	2.49	7.39	2.13	8.45	2.09
OI	7.13	2.47	8.63	2.16	9.17	1.83
GS	6.67	2.44	7.85	1.97	9.25	2.05
PL	5.45	2.78	6.50	2.98	8.55	2.78
PS	4.81	2.21	5.46	2.03	5.74	1.94

Table V-3

MEANS AND STANDARD DEVIATIONS OF SCORES ON
CAREER MATURITY MEASURES FOR GIRLS AT THREE GRADES

	Grades					
	VIII		X		XII	
Criterion	N=142		N=136		N=153	
	M	SD	M	SD	M	SD
CCA	28.94	5.75	31.99	5.91	32.54	5.94
SA	6.82	2.13	7.26	2.07	8.86	1.83
OI	7.44	2.41	8.04	2.26	9.29	1.96
GS	6.61	1.95	7.80	2.22	9.20	1.78
PL	5.15	2.50	5.78	2.74	7.02	2.73
PS	4.80	1.87	5.19	2.04	6.08	1.61

Table V-4

TWO WAY (GRADE x SEX) ANALYSIS OF VARIANCE WITH
RESPECT TO SCORES ON CAREER MATURITY MEASURES

Criterion	Source	Sum of squares	MSS	df	f
CCA	Rows	.586	.586	1	2.45
	Columns	24.000	12.000	2	50.19***
	Interaction	1.246	.623	2	2.60
	Within	29818.441	.239	863	
SA	Rows	.127	.127	1	4.04*
	Columns	4.628	2.314	2	73.48***
	Interaction	.141	.070	2	2.23
	Within	3927.827	.031	863	
OI	Rows	.004	.004	1	.13
	Columns	3.771	1.886	2	56.51***
	Interaction	.225	.113	2	3.37*
	Within	4161.456	.033	863	
GS	Rows	.004	.004	1	.13
	Columns	6.679	3.339	2	111.71***
	Interaction	.000	.000	2	.00
	Within	3727.936	.030	863	
PL	Rows	1.091	1.091	1	20.75***
	Columns	6.408	3.204	2	60.95***
	Interaction	.393	.196	2	3.74*
	Within	6554.936	.053	863	
PS	Rows	.000	.000	1	.02
	Columns	1.217	.609	2	22.93**
	Interaction	.094	.047	2	1.77
	Within	3309.774	.027	863	

*Significant at .05 level
**Significant at .01 level
***Significant at .001 level

The Means on all measures of career maturity show a
progression of scores across the three grades. The two
way analysis of variance for sex vs. grades yields significant
grade effect on all the variables. The F ratios for columns
are significant at .001 level which show that career choice
attitudes and career choice competencies, as assessed by
self appraisal (SA), occupational information (OI), goal
selection, (GS), planning (PL) and problem solving (PS) are
a positive function of grade.

The findings of the study provide support to the
developmental theory of Ginzberg et al (1951) and Super
(1953, 1957) both of whom emphasized the continuity and
irreversibility of the vocational development process.

Table V-5 on the next page presents the significant
differences amongst all the pairs of means of three grades
VIII, X & XII on all the six measures of career maturity.
It is noted that all the 't' ratios are significant at
one percent level.

Table V-5

SIGNIFICANCE OF DIFFERENCES AMONGST PAIRS OF MEANS OF THE
THREE GRADES: VIII, X & XII ON CAREER MATURITY MEASURES

Criterion	Groups compared	t^1
CCA	VIII Vs X	7.20**
	X Vs XII	2.35**
	VIII Vs XII	9.72**
SA	VIII Vs X	4.55**
	X Vs XII	7.40**
	VIII Vs XII	11.90**
OI	VIII Vs X	6.30**
	X Vs XII	5.17**
	VIII Vs XII	10.83**
GS	VIII Vs X	5.95**
	X Vs XII	6.95**
	VIII Vs XII	12.90**
PL	VIII Vs X	3.74**
	X Vs XII	6.87**
	VIII Vs XII	10.60**
PS	VIII Vs X	3.25**
	X Vs XII	3.69**
	VIII Vs XII	6.94**

*Significant at .05 level)
**Significant at .01 level) One tailed test

[1]For computation of 't' error mean sum of squares has been
taken as the variance of the scores in every group.

To study the developmental trend scores across
the three grades and to compare them within variables the
obtained means (of combined groups as well as boys and
girls separately) were converted into standard scores.
Based on these standard scores a graphic representation of
the career maturity measures is presented (graphs 1, 2 & 3).

The graphic representation of the means (in standard
scores, graph - 1) across three grades (on next page) shows
a progression in the curves with increasing grade level.
There are no reversals of scores at any grade level on any
indices of career maturity. Thus the results provide
support to the findings of Crites (1965) obtained in the
course of developing Vocational Development Inventory (VDI)
and to those of the Gribbons and Lohnes (1968, 1969) in
the use of their Readiness for Vocational Planning Scales.
The upward curves on all the indices of career maturity
are indicative of an even more ideal picture of a develop-
mental trend on all the measures, than that obtained by
Crites in his standardization sample.

The very term 'maturity' conveys and captures the
concept of progressive change which underlies the emerging
career awareness, exploration and decision making; the
variables which the Career Maturity Inventory (CMI) has
been constructed to measure. These results further seem
to validate the adapted Indian Attitude Scale and Competence

DEVELOPMENTAL PATTERN OF CAREER MATURITY MEASURES ACROSS THREE GRADES.
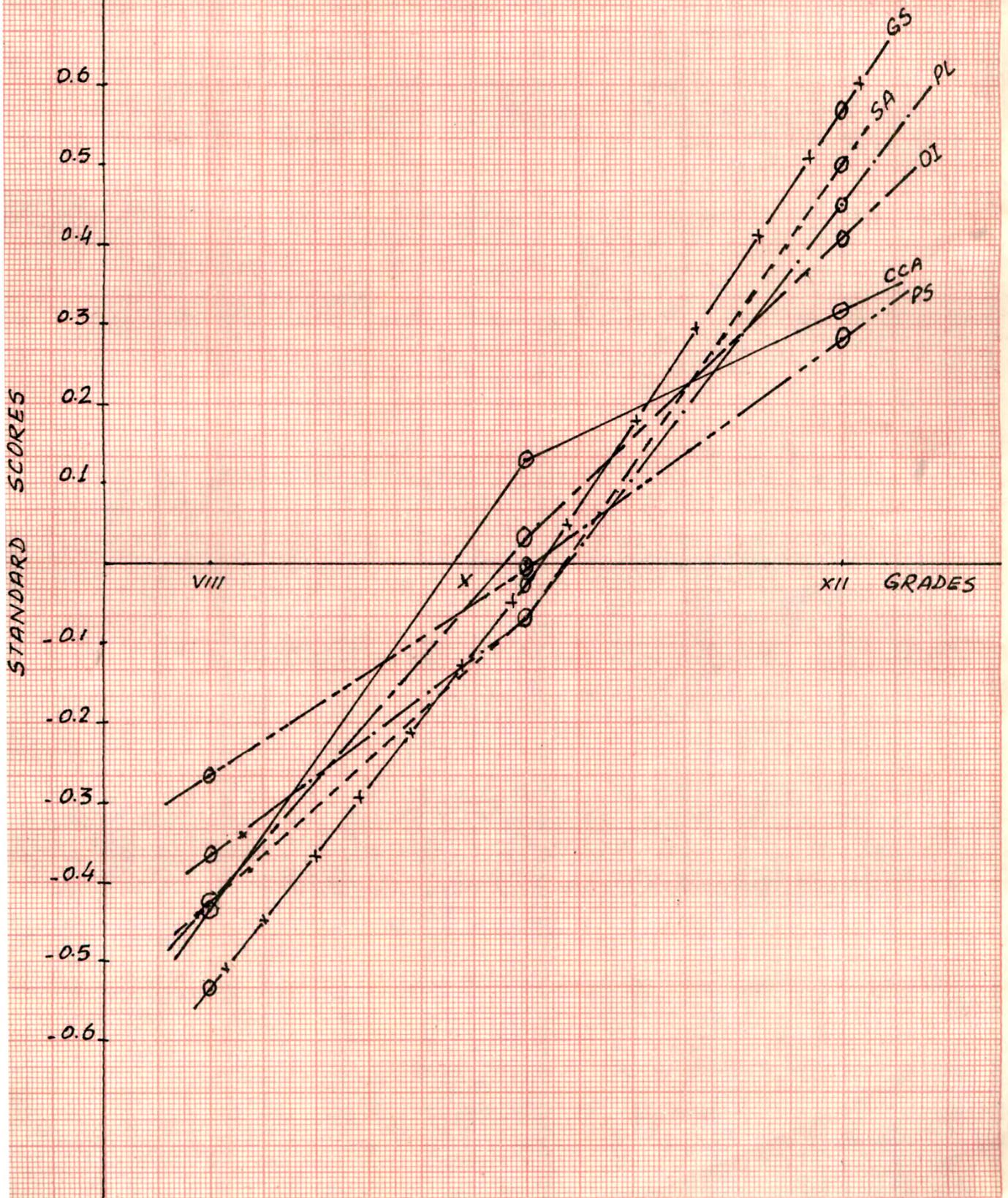
Test as all the measures are shown to bear a systematic relationship to time, which is an essential criterion for validity of the instruments designed to assess a developmental variable like career maturity.

The results support the findings of other researchers (Herr & Enderlein 1976; McGee 1973; Alexender 1977; Mintzer 1977; Smith & Herr 1972; Parlikar 1973) who have found scores on CMI attitude scale incfeasing by grade levels. Pendleton (1976) using competence test has also found that a linear relationship exists between grade levels.

The results also establish the findings of some cross-cultural studies such as of Achebe (1975), Huang (1974) who have shown that developmental theory of career maturity has cross cultural application, and even in socially and economically underdeveloped societies, there may be a continuous pattern of vocational development.

Alomari (1978), using CMI attitude scale and competence test on samples of Arabic and non Arabic students, found significant differences amongst VII, VIII & IX grades. Moracco (1976) assessing Arabic and American Students and Bourke (1976) comparing American and Japanese students on career choice attitudes, have found a developmental trend in the scores, regardless of nationality. Some other researches such as of Kelso (1975), Smith (1975), Westbrook & Parry-Hill (1973), Super & Forrest (1972), have

shown systematic increases on various aspects of career
maturity across various grade levels, which find support
here.

The profiles present a comparative picture of
developmental pattern of career maturity measures across
three grades (graph 1). It is seen that there is a
variability in the rate of development of different career
maturity measures. Students at VIII grade are almost at
the same level regarding their choice attitude, self
appraisal and occupational information but they are slighly
better at planning and problem solving. Their goal selection
competency, which is lowest, shows that students are not so
much thinking in terms of selecting vocational goals at
this stage; but their competency in learning ways to coping
with the career decision problems has out-grown competencies
in other areas, which is rather unexpected that a more
advanced vocational behaviour should be more developed in
students at VIII grade than the simple tasks of orientation
and involvement in decision making.

However, at X grade, it is noted that students are
almost at the same level regarding occupational information,
goal selection, planning and problem solving, but they have
greater maturity in choice attitudes, showing them to be
more involved, oriented, decisive and independent in career
decision making as they progress from VIII to X grade.
X grade being a terminal point in the educational ladder,

students have to take certain educational and vocational
decisions at this stage and results show that there is a
greater awareness and involvement in career decision making
at X than at VIII grade. The lower score of self appraisal
suggests that students are lacking in adequate knowledge of
self in comparison to other choice behaviours at this level.

At XII grade, a sharp increase in self appraisal,
occupational information, goal selection and planning shows
that students at the school leaving stage (grade XII) are
showing greater knowledge about themselves, world of work
and they are more engaged in thinking in terms of a future
vocational goal and planning steps to reach the goal.

The results tend to support Crites (1978) assertion
that "there appears to be early and late growth spurts in
adolescent career development with an intervening stage of
consolidation or quiescence". The results also show almost
all the curves meeting at X grade and then showing accelera-
tion from X to XII grade except problem solving.

The slow rate of growth on problem solving at XII
grade, reflects students lack of competency to cope up with
problems arising in the career decision making in an creative
and integrative way. The problems that have been posed in
the problem solving subtest, range from insufficient aptitude
for a preferred occupation through conflict with parents
over career goals, and limitations imposed by emotional and

physical handicaps. Adolescence, especially at the school leaving stage, is a stage, characterized by a struggle for independence. In a fast changing society in India, where intergenerational conflicts are increasing, it is commonly seen that there is a clash of wills between loving, anxious, ambitious parents and ambivalent, restive and rebellious youth. The students at XII grade also face the stark realities of world of work and feel confused and insecure which is reflected in their lower performance on the problem solving subtest in comparision to other competencies. Their better standing on this competency at VIII grade also shows the ease, the security and confidence of the younger students which in the period of reality testing at XII grade turns into disillusionment.

Table V-6 on the next page shows that, when sex is controlled, the means are still increasing significantly across grade levels for all indices of career maturity, except at some places, such as on career choice attitudes where there is no significant increase from X to XII in the girls. Similarly, for occupational information also, there is no significant increase from VIII to X in the girls. In the case of boys, only on one indices of career maturity, namely problem solving, there is no significant increase from X to XII grade. Thus career maturity increases monotonically across grade levels for boys as well as for

Table V-6

SIGNIFICANCE OF DIFFERENCES AMONGST PAIRS OF MEANS OF THREE GRADES: VIII, X & XII, FOR BOYS AND GIRLS ON CAREER MATURITY MEASURES

| Criterion	Groups compared	t^1 Boys	t^1 Girls
CCA	VIII Vs X	5.87**	4.33**
	X Vs XII	2.69**	.80
	VIII Vs XII	8.41**	5.27**
SA	VIII Vs X	4.74**	1.72*
	X Vs XII	4.20**	6.37**
	VIII Vs XII	8.83**	8.21**
OI	VIII Vs X	5.95**	1.37
	X Vs XII	2.06*	4.80**
	VIII Vs XII	7.86**	7.20**
GS	VIII Vs X	4.92**	4.76**
	X Vs XII	5.70**	5.69**
	VIII Vs XII	10.50**	10.66**
PL	VIII Vs X	3.30**	1.90*
	X Vs XII	6.30**	3.81**
	VIII Vs XII	9.53**	5.82**
PS	VIII Vs X	2.86**	1.68*
	X Vs XII	1.19	3.84**
	VIII Vs XII	3.97**	5.61**

*Significant at .05 level ⎫
**Significant at .01 level ⎭ One tailed test.

[1] For computation of 't' error mean sum of squares has been used as the variance of the scores in every group.

DEVELOPMENTAL PATTERN OF CAREER MATURITY MEASURES ACROSS THREE GRADES FOR BOYS
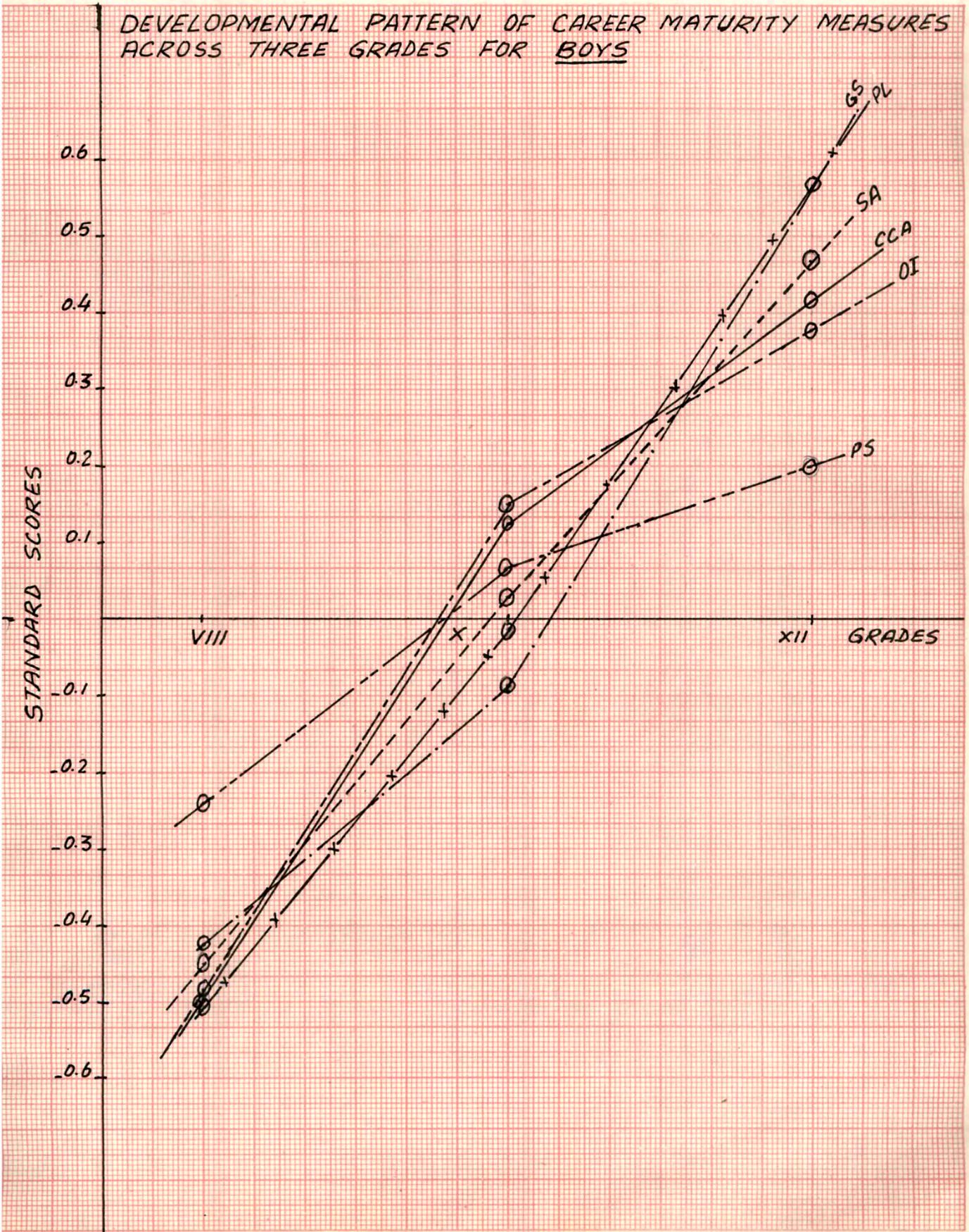
DEVELOPMENTAL PATTERN OF CAREER MATURITY MEASURES ACROSS THREE GRADES FOR GIRLS
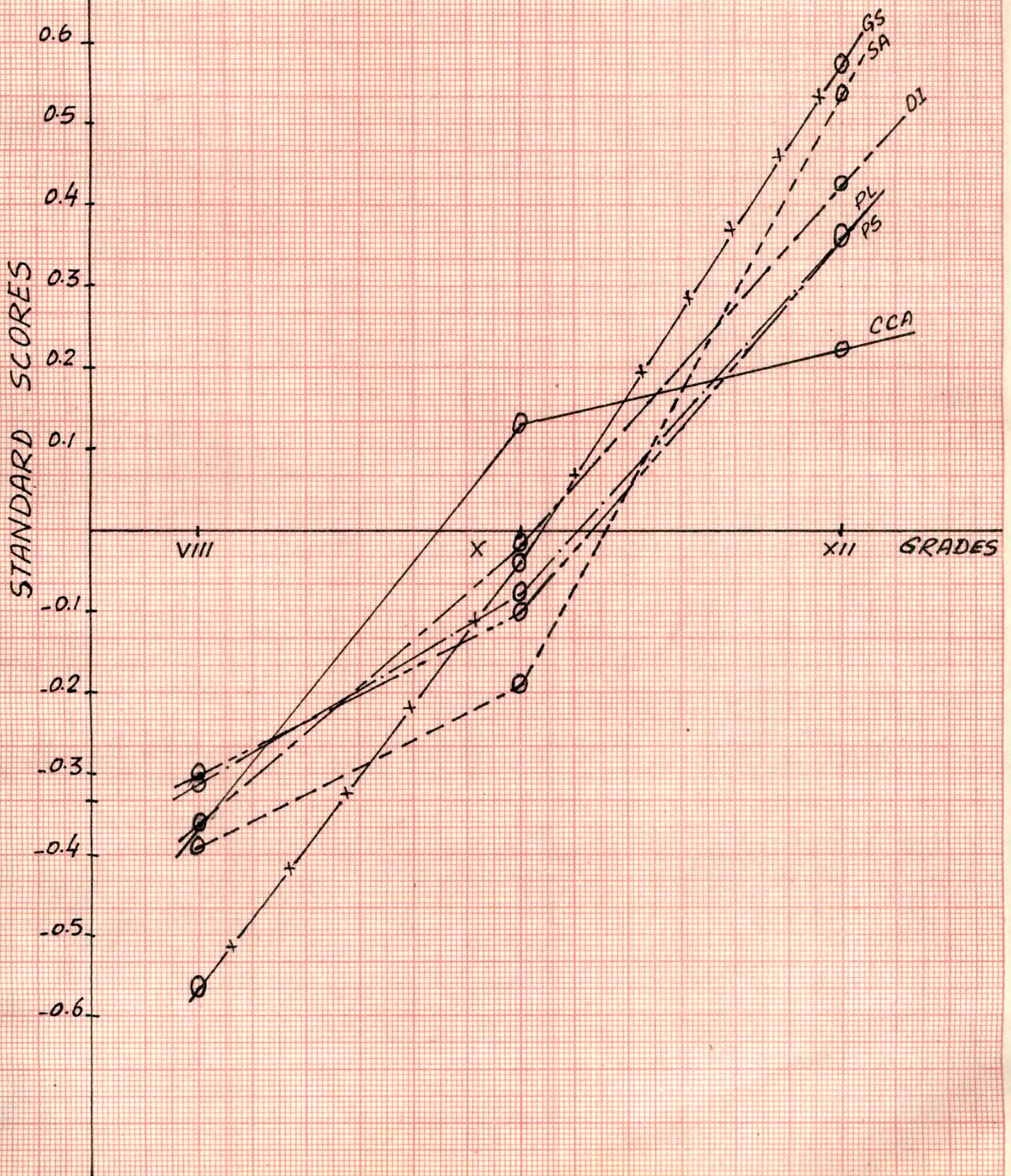
girls, but the rate of increase on some indices is
influenced by sex differences.

The graphic representation of means (in standard
scores, graphs 2 & 3) of boys and girls on career maturity
measures, across three grades indicate that on career
choice attitudes, the scores of girls tend to level off
after grade ten and boys continue to show continuous
upward trend. Girls are lowest on goal selection at
VIII grade but show a sharp increase from X to XII.
Similarly, they are lowest at self appraisal at X grade
but thereafter the curve shows a spurt from X to XII grade.
Boys are highest in problem solving at VIII grade but the
curve levels off after grade X, showing boys lacking in
problem solving competency at grade XII in comparison to
other competencies.

By and large, the incremental trend of scores in
both the sex groups seems to support the findings of Herr
& Enderlein (1976) who found that males and females both
increase in career maturity at almost a linear rate, though
the rate of growth is marked by sex differences. Thus, the
developmental theory of career maturation tends to find
support by findings of the present study.

An increase in the scores of career maturity is
based on the theory that vocational development is a
continous process. Super (1951, 1953, 1957) sees no dis-

continuities in individual's vocational development. He
writes that

> "the evidence suggests that the exploratory
> experiences of adolescence in most cases
> merely clarify, elaborate upon, and confirm
> the concept of the self which has already begun
> to emerge and to crystallize. As a rule,
> adolescent exploration is an awakening to
> something that is already there, rather than
> the discovery of something new and different."

In other words the basis for the individual's personality
and for his vocational future is laid during the early
formative years of his life and the information the
individual is exposed to increases in relevance, accuracy
and specificity as he moves into adolescence.

The results seem to over-rule the "point in time"
concept of guidance which is still held by guidance workers.
According to this view, guidance is only needed at some
specific choice points, but the developmental pattern of
career maturity measures indicates that it is needed at
all levels of education. It further shows that certain
attitudes toward work and certain career competencies,
develop as early as class VIII, and undergo a process of
change as the student grow older. The incremental trend
shows that career maturity is a modifiable phenomena and
maturational and educational experiences in the school do
contribute positively towards it. It is essential that
proper attitude to deal with career decision making tasks;
skills and competencies of career decision making, are

developed from very early and throughout the school years, to help youth in a smooth transition from school to work.

The two way analysis of variance results on career choice attitudes show that F ratios for sex, and grade x sex interaction are not significant, showing that there are no differences on this measure attributable to sex or due to joint effects of sex and grade and greater proportion of variance is accounted for in terms of grade. However, the mean career choice attitude (CCA) score for boys appears higher than girls at XII grade (Table V-7 on next page), showing boys more career mature in their career attitudes than girls. The graphic representation of the means for career choice attitudes (CCA) (Graph-4 next page) for boys and girls also shows that at VIII grade, the level of maturity in the two groups is almost same but by X grade, boys' mean seems slightly higher than girls', and at XII grade the gap between the two groups further widens. Since the trend of the curves at grade XII suggested sex differences, 't' ratio between the means of boys and girls at grade XII was calculated which is significant (Table V-7, t = 2.60 p < .01). This suggests that boys may be higher than girls in maturity of choice attitudes at school leaving stage (grade XII).

This, however, is contrary to the findings of Smith & Herr (1972), Rathburn (1973), Omvig & Thomas (1977), Hansen and Putnam (1978) and Mcdowell (1978) who have shown

SEX DIFFERENCES ON CAREER CHOICE ATTITUDES SCORES ACROSS THREE GRADES
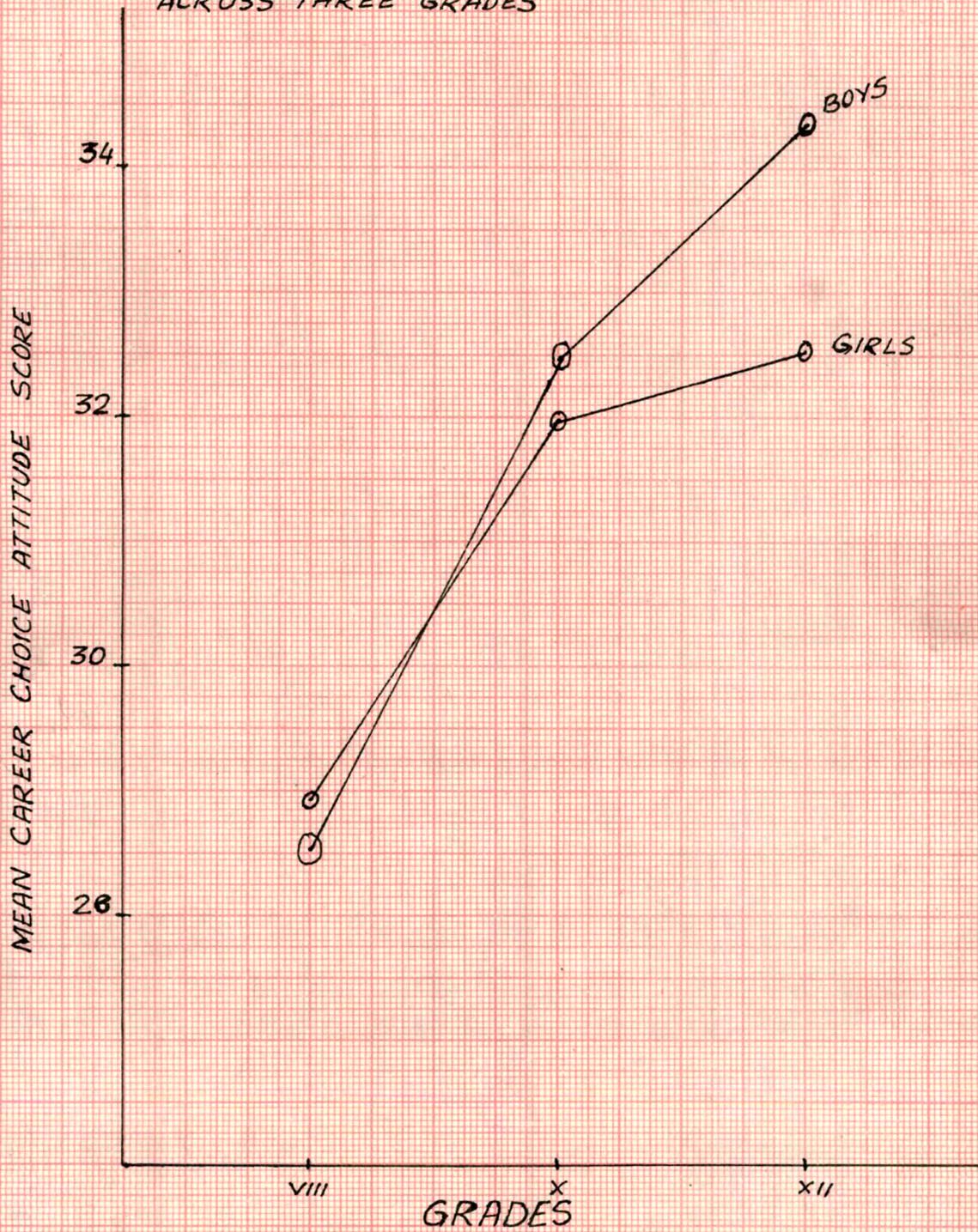
Table V-7

SEX DIFFERENCES AT THREE GRADE LEVELS FOR
CAREER CHOICE ATTITUDES

| Grades	Sex						t^1
	Boys			Girls			
	N	Mean	SD	N	Mean	SD	
VIII	151	28.52	5.50	142	28.94	5.75	.613
X	150	32.48	5.89	136	31.99	5.91	.710
XII	137	34.34	6.28	153	32.54	5.94	2.60**

**Significant at .01 level.

[1]For calculation of 't' error mean sum of squares (5.87)
has been taken as the source of variance.

that females are higher on choice attitudes than males as
they are growing older in the samples of school students
of the West. The findings of the study on CCA at XII grade
show that in Indian society boys may have a greater maturity
of career attitudes than girls at the school leaving stage.

The self appraisal (SA), F ratio for sex is
significant (F = 4.04 , p < .05). The 't' ratios between
pairs of means of boys and girls at each grade level for SA
were calculated (Table V-8) and it was found that only at
the VIII grade, SA means for boys and girls are significantly
different. A similar picture appears in the graphic
representation of the means (Graph 5), for SA over the three

SEX DIFFERENCES ON SELF APPRAISAL SCORES
ACROSS THREE GRADES
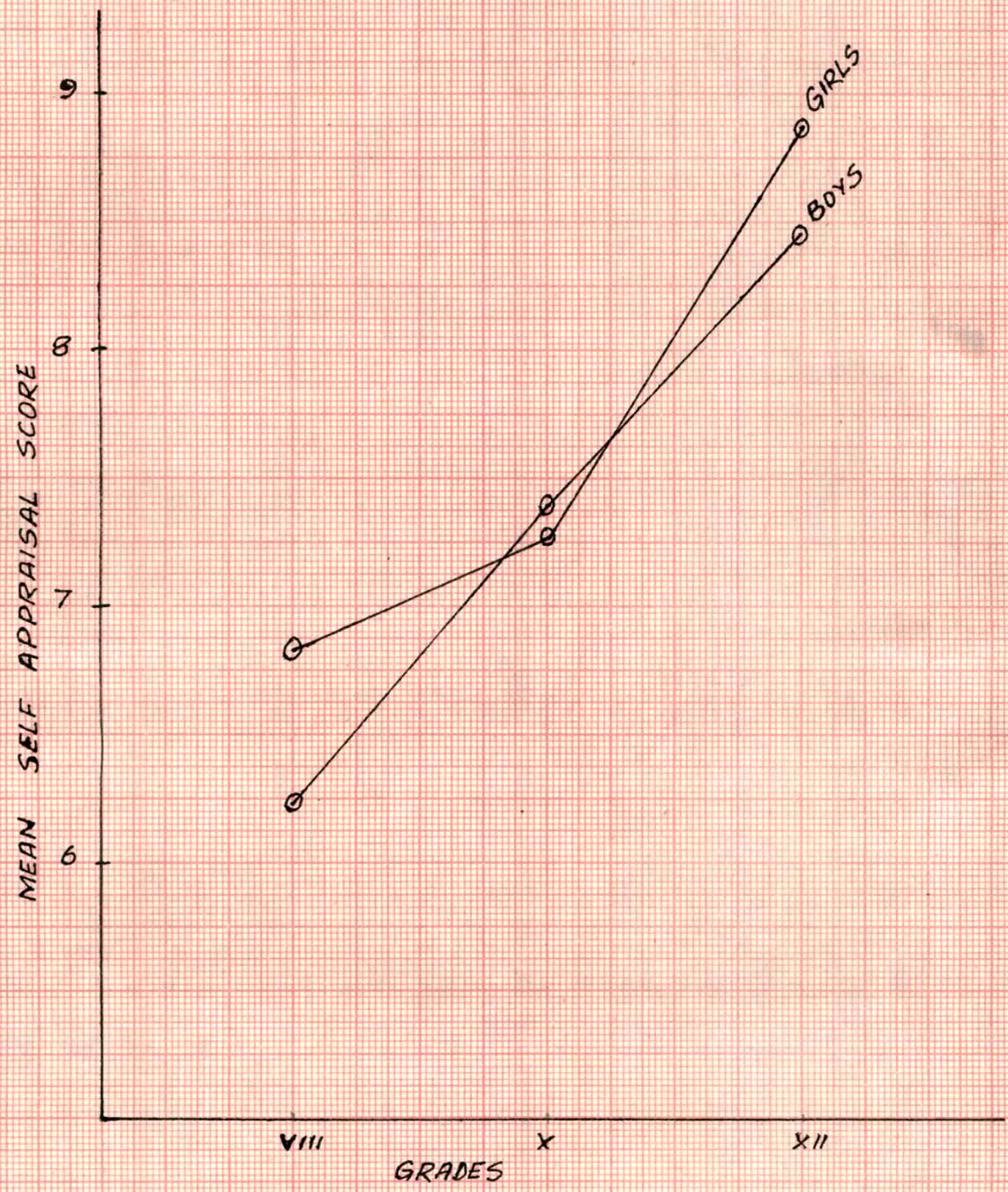
grades. Girls means being higher at VIII grade, the
girls have greater knowledge of their capabilities than
the boys but at X & XII grades these difference disappear.
Sex×grade interaction for this competency is not significant,
showing variation in career maturity scores across grade
levels not affected by sex.

Table V-8

SEX DIFFERENCES AT THREE GRADE LEVELS
FOR SELF APPRAISAL

	Sex						t^1
	Boys				Girls		
Grades	N	Mean	SD	N	Mean	SD	
VIII	151	6.23	2.49	142	6.82	2.13	2.39*
X	150	7.39	2.13	136	7.26	2.07	.52
XII	137	8.45	2.09	153	8.86	1.83	1.64

*Significant at .05 level (Two tailed test)

[1]For calculation of 't' error mean sum of squares (2.13)
has been taken as the source of variance.

The F ratio for occupational information (OI) shows no significant sex effect, but sex x grade interaction is significant showing significant between sex differences across grade levels, which show that variation in occupational information scores are not only due to increase in educational status but also due to variation attributable to sex. Since sex x grade interaction was significant, 't' ratios between boys and girls at each grade level were calculated (Table V-9) and it was seen that at X grade, boys are significantly higher than girls but at VIII & XII grades these differences are not significant. A similar picture also appears in graph 6.

Table V-9

SEX DIFFERENCES AT THREE GRADE LEVELS FOR
OCCUPATIONAL INFORMATION

Grades	Sex						t^1
	Boys			Girls			
	N	Mean	SD	N	Mean	SD	
VIII	151	7.13	2.47	142	7.44	2.41	1.22
X	150	8.63	2.16	136	8.04	2.26	2.26*
XII	137	9.17	1.83	153	9.29	1.96	.465

*Significant at .05 level (Two tailed test)

[1]For calculation of 't' error mean sum of squares (2.196) has been taken as the source of variance.

SEX DIFFERENCES ON OCCUPATIONAL INFORMATION SCORES ACROSS THREE GRADES.
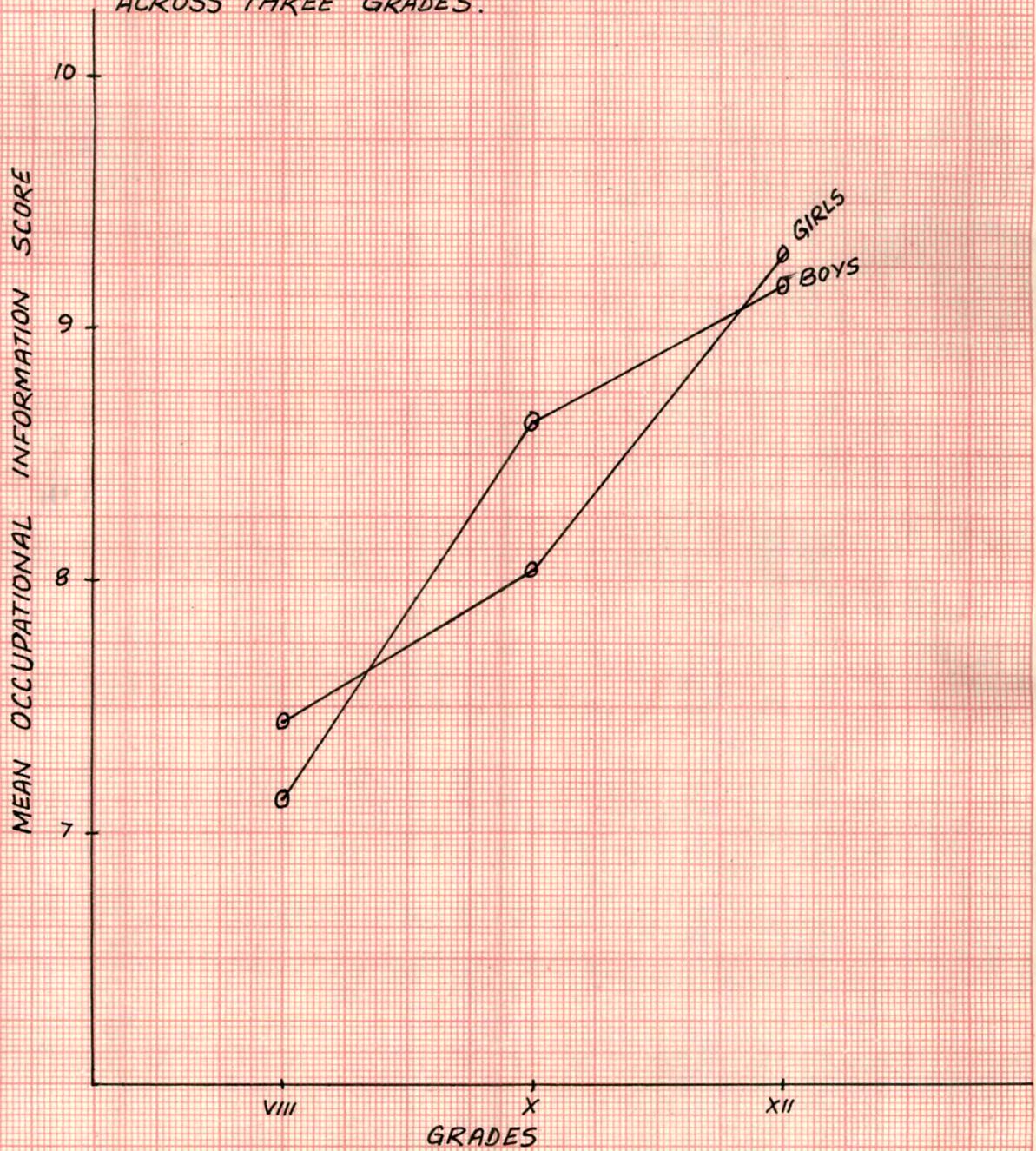
On goal selection (GS), there is neither significant sex effect, nor the sex x grade interaction effect, showing no significant differences between boys and girls within grades nor between grade levels. Thus variation in the scores across grades are attributable only to differences in the educational status. Graph-7 also shows cruves of boys and girls going parallel to each other.

On planning (PL) indices, there is a significant sex effect. The 't' ratios calculated between pairs of means of boys and girls at each grade level (Table V-10) show that there are significant sex differences between boys and girls at X & XII grades on planning competency. The graphic

Table V-10

SEX DIFFERENCES AT THREE GRADE LEVELS ON PLANNING

	Sex						
	Boys			Girls			t^1
Grade	N	Mean	SD	N	Mean	SD	
VIII	151	5.45	2.78	142	5.15	2.50	.934
X	150	6.50	2.98	136	5.78	2.74	2.20*
XII	137	8.55	2.78	153	7.02	2.73	4.72**

*Significant at .05 level) (Two tailed test)
**Significant at .01 level)

[1]For calculation of 't' error mean sum of squares (2.76) has been taken as the source of variance.

SEX DIFFERENCES ON GOAL SELECTION SCORES ACROSS THREE GRADES
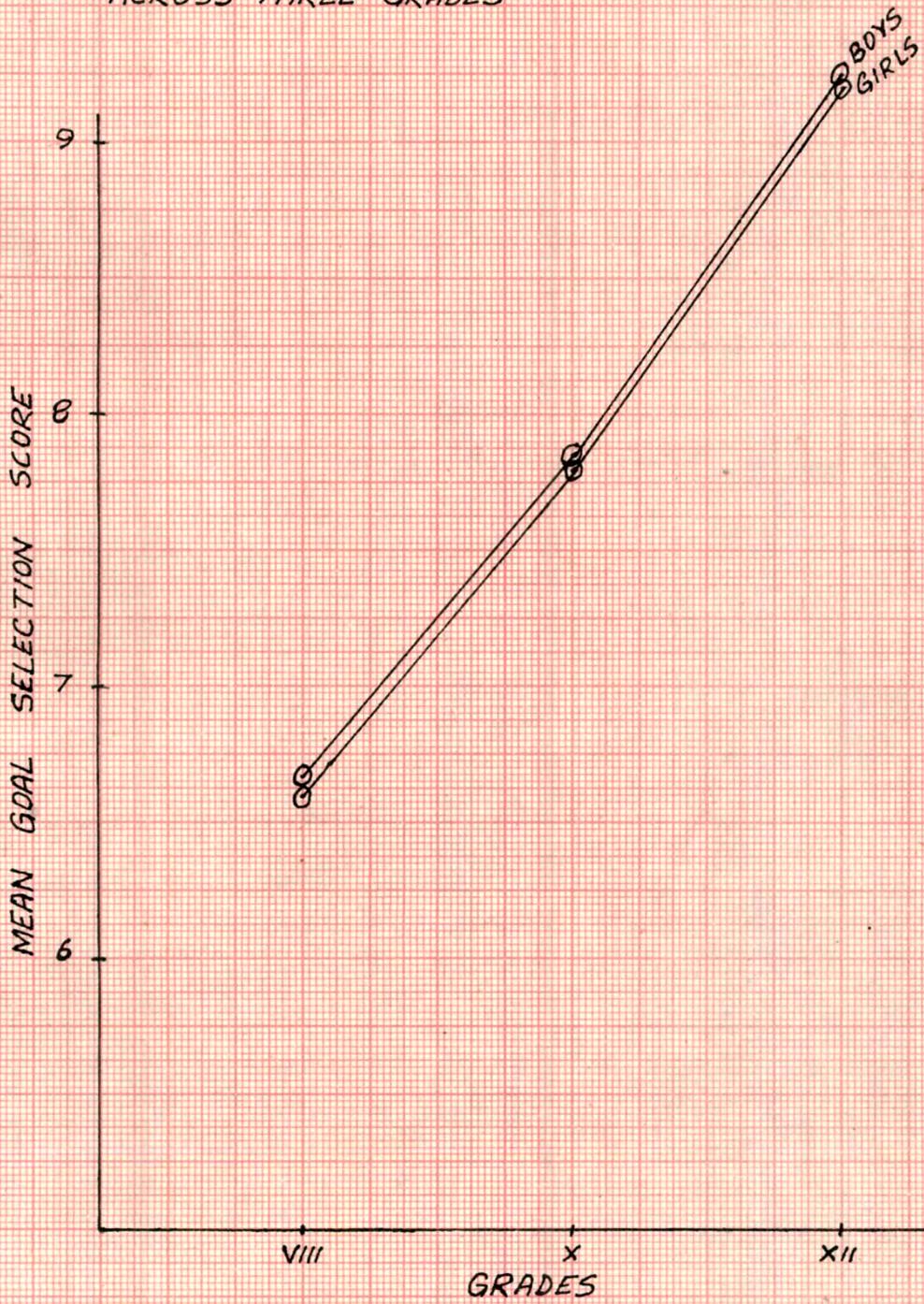
representation of the means (graph-8) also shows boys' means higher than girls' at X & XII grade which, in turn, shows that boys tend to be more planful and may have greater insight into the steps to be taken to attain their future goals on these grades. Boys with their knowledge of occupational information make use of it in planning for future, whereas girls, though they have as much information as boys at XII grade, do not make use of it to plan for their future. Perhaps this is because girls in our society do not still think in terms of planning for future career as boys do.

The significant sex x grade interaction on planning shows that variation in scores on this aspect, across grade levels, is attributable to joint effect of both sex and grade.

On problem solving (PS) neither the F ratios for sex, nor the sex x grade interaction are significant, showing no sex differences within grades and between grades.

The results on sex differences seem to partly support the findings of Achebe (1975), on a sample of Nigerian students. He found that boys scored higher than girls on career choice attitudes and occupational information but there were no sex differences on planning which is not the case here.

Non significant sex differences appearing on goal selection & problem solving aspects of career maturity

SEX DIFFERENCES ON PLANNING SCORES ACROSS THREE GRADES
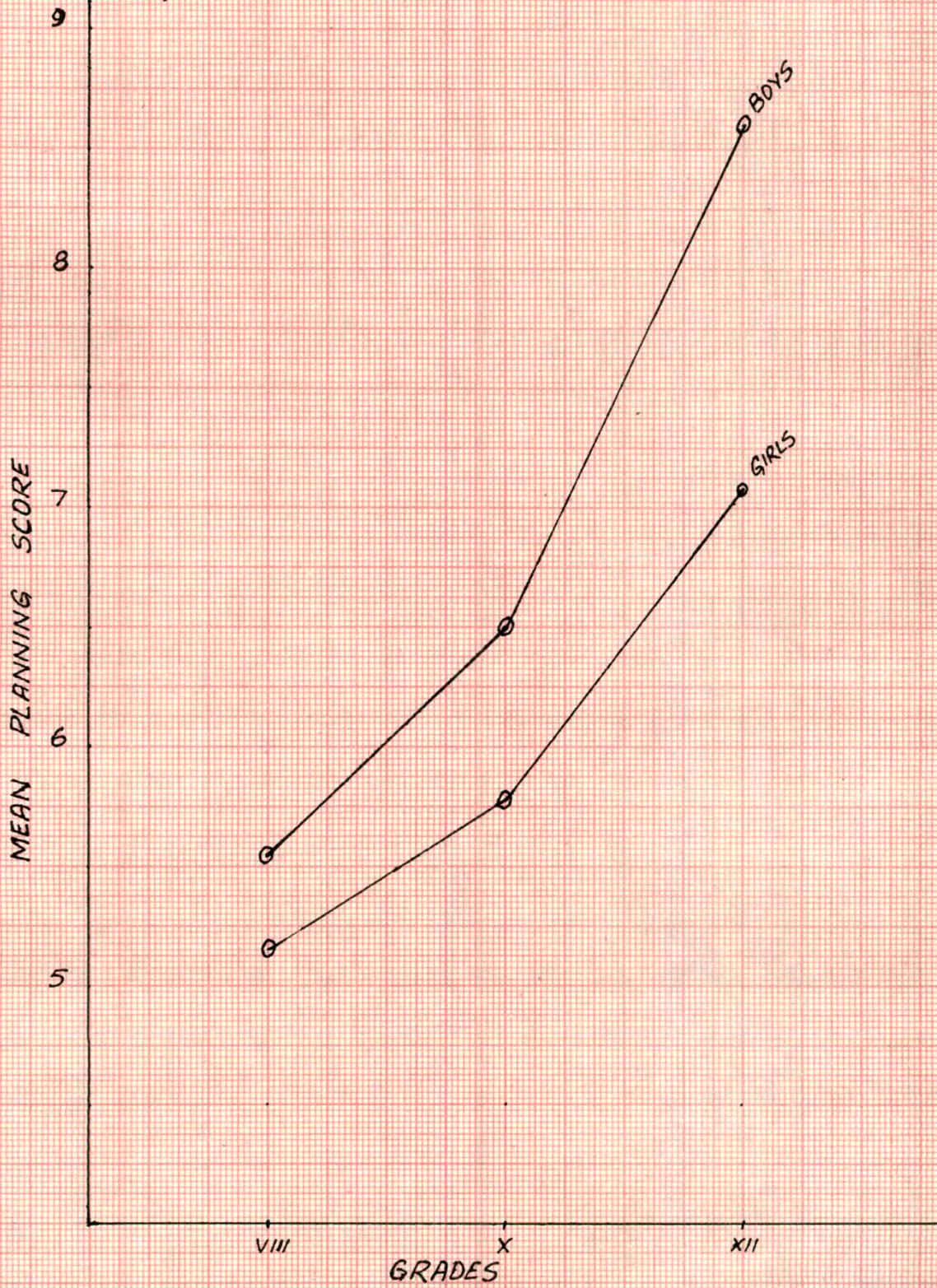
SEX DIFFERENCES ON PROBLEM SOLVING SCORES ACROSS THREE GRADES.
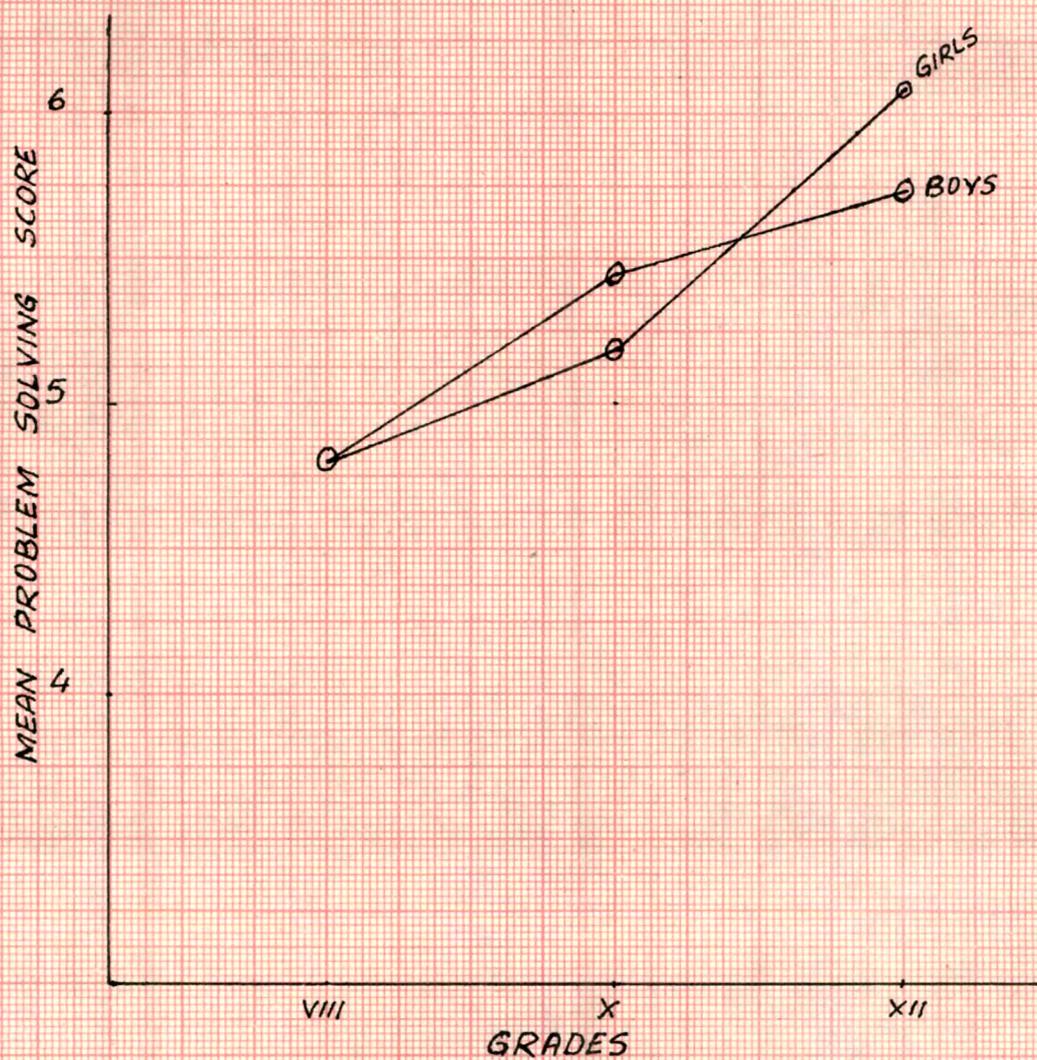
support the findings of Alomari (1978) who found no signi-
ficant sex differences on parts of the competence test
except for self appraisal at junior high school. Parlikar
(1973) found no sex differences on the competence test
scores of students from VIII to X. However, he found boys
having more mature career choice attitudes at VIII, IX &
XI which is partly supported by the findings here.

Taking all indices of career maturity, the results
show that differences between boys and girls appear on
career choice attitudes, self appraisal, occupational
information and planning on some grade levels and on goal
selection and problem solving, there are no sex differences
at any grade level.

At VIII grade, sex differences only appear on self
appraisal and girls are scoring higher than boys. This
difference also disappears at higher grade levels.

At X grade, there are differences in boys and girls
on occupational information and planning; boys scoring
higher in both. At XII grade, there are significant sex
differences only on career choice attitudes and planning.
Thus on planning, differences between sexes from X to XII
are maintained and boys are scoring higher consistently.

XII grade 'means' and 't' ratios show that at school
leaving stage, boys are more mature than girls on choice
attitudes and planning and on other career competencies,
girls are as mature as the boys. Girls having lower level

of maturity in choice attitudes at XII grade and in planning
at X & XII grades, reflect the differences in early socializa-
tion of boys and girls in our culture. Boys, from every
early years are made conscious of their role as the bread
winners, and girls of their role as home-makers. It is
common to hear in the Indian household, old ladies reprimand-
ing girls if they paid too much attention to their studies
to the neglect of learning the household chores. They are
remainded and given tips, off and on as to how they could
perform duties of a good daughter-in-law, wife and mother.
Thus girls grow up with an impression that they are not to
go out and work. Brought up in a protected atmosphere of
male supermacy, girls find themselves not capable enough to
feel so involved, oriented, independent and decisive to deal
with career decision making tasks at this stage. They also
do not seem to feel interested in terms of future vocational
plans.

Changes are coming about in sex role perceptions,
due to the influence of western culture and technological
advancement which is perhaps the reason that at school
leaving stage, grade XII, sex differences have not appeared
on other career competencies, such as self appraisal,
occupational information, goal selection, and problem solving.
Furthermore, this perhaps can be attributed to many changes
that are taking place in our society showing in an increasing
emphasis on girls education and greater job opportunities
for women. The economic necessities are bringing women out

to share the economic burden of the family. There are changes coming about in the female role perceptions and career expectations and also greater emphasis on women's participation in education and resulting employment. This is especially true of big cities like Delhi from where the sample of the study is drawn. There is equal exposure of television, cinema, radio, magazines to both boys and girls. The findings here show that both sexes have the same level of maturity on self appraisal, occupational information, goal selection and problem solving at grade XII.

However, it is also seen that girls are lacking in maturity in their attitudes towards career decision making i.e., they do not feel so involved in thinking in terms of a career, and are not independent and decisive. They are also lacking in means which are necessary to reach a desired end (planning). In other words, they are at the same level as boys in selecting a vocational goal but lack in specification of intermediate steps which lead to it.

The overall findings on the relationship of career maturity to grade and sex tend to indicate that it seems a monotonic process and boys and girls may tend to differ only on some of its aspects. This suggests that level of career maturity obtained and the rate at which it increases, may vary by sex on some indices.

PART - II

CORRELATION AND PREDICTION

It may be recalled that the purpose of the present investigation, was to study the relationship of career maturity measures with some selected socio-psychological variables. In order to study the relationship of each independent variable with each criterion measure, product moment correlations were computed which are shown in the 25x25 inter-correlation matrices (See appendix II) of three grades (VIII, X & XII) and for boys and girls. However, separate tables are also given to present the results. The correlations are discussed with reference to the specific hypotheses stated below:

1. Career choice attitudes and career choice competencies are positively related with socio-economic status, intelligence, level of vocational aspiration and participation in school and out of school activities at grade levels VIII, X and XII for boys as well as girls.

2. Career choice attitudes and career choice competencies are related with fourteen (HSPQ) personality factors at grade levels VIII, X & XII for both boys and girls.

1. The Correlations of Career Maturity measures
   with SES, INT, LVA, PISA and PIOSA

Socio-economic Status

Table V-11 shows socio-economic status (SES)
significantly and positively associated to career attitudes
(CCA) in both boys and girls at all grade levels. This
suggests that SES, as assessed here by an individual's
standing on parental occupational level, parental education,
income, house type, material possessions and cultural

Table V-11

CORRELATIONS OF MEASURES OF CAREER MATURITY WITH SOCIO-
ECONOMIC STATUS AT THREE GRADES FOR BOYS AND GIRLS

| Criterion Measures | GRADES | | | | | |
| | VIII | | X | | XII | |
	Boys N=151	Girls N=142	Boys N=150	Girls N=136	Boys N=137	Girls N=153
CCA	.421**	.427**	.365**	.413**	.437**	.381**
SA	.337**	.272**	.108	.231**	.072	.141*
OI	.436**	.335**	.333**	.327**	.058	.089
GS	.334**	.239**	.278**	.271**	.089	.170*
PL	.402**	.389**	.414**	.368**	.140*	.218**
PS	.441**	.191*	.267**	.303**	-.030	.122

*Significant at .05 level ⎫
**Significant at .01 level ⎬ One tailed test.

standing is significantly associated to maturity of career attitudes at all grade levels irrespective of sex. It was hypothesized that more favourable the individual's socio-economic background, greater may be his capability to deal with various vocational developmental tasks which are being assessed through the conative aspects of decision making, the choice attitudes and cognitive aspects, choice competencies. Results suggest that so far as choice attitudes are concerned, they may be associated with living in an economically and culturally stimulating environment, throughout the higher secondary school years. This agrees with the findings of Super & Overstreet (1960), who found best established measure of SES (parental occupational level), significantly related to three of the four indices of orientation to vocational choice.

Looking at the career choice competencies, it is found that SES is significantly and positively related to self appraisal (SA) in both sexes at VIII grade but only in girls at X & XII grade. This shows lesser association of socio-economic status with self appraisal in boys at higher grade levels. In girls, SES continues to be associated with knowing about self (SA) right upto the XII grade.

Significant positive relationship is also seen between occupational information (OI) and SES in both boys and girls at VIII & X grades, but at XII grade, no such

relationship is seen in either sex. Here too, SES is showing greater association with knowledge about world of work (OI) at lower grades than at higher grades.

A further glance at the table shows significant positive relationship between goal selection (GS) and SES in both sexes at VIII and X grades and only in girls at XII grade.

Planning (PL) is also significantly positively related to SES at all grade levels in both sexes but on problem solving (PS) again, the relationship with SES is significant at VIII and X grades in both the sexes, but not significant at XII grade, in either group.

The results show most of the indices of career maturity significantly and positively related to socio-economic status, but some indices show a variation in relationship with variation in grade level and sex. The indices which are consistently having a significant positive relationship with SES right from grade VIII to grade XII, in both sexes, are those of career choice attitudes and planning. This suggests that high SES students continue to be more mature in choice attitude and planning than low SES students from VIII to XII grade.

Largely, socio-economic status seems to be significantly related to clear knowledge of self (SA), greater knowledge of world of work (OI) setting goals for future(GS)

and ability to solve career problems (PS) at VIII and
X grade and to maturity of career attitudes (CCA) and
planning to achieve one's future goal (PL), not only at
VIII and X grades, but also at XII grade. Socio-economic
status does not show any relationship with self appraisal
and goal selection, for boys of XII grade and with
occupational information and problem solving for both sexes
at XII grade. This tends to show that low SES boys, as in
self appraisal, gain on occupational information, goal
selection and problem solving competencies at XII grade
and similarly girls from low SES gain in occupational
information and problem solving at this grade due to
influence of some other factors.

The lower correlations at higher grade levels tend
to suggest that perhaps, some other factors in socio-
economic background such as role models in family and
school, the school climate, parental attitudes and aspira-
tions, relationship with peers may be better associated
with career maturity at higher grade levels.

The findings of the present study on the Indian
samples largely confirm the findings of Maynard & Hansen
(1970), Ansell & Hansen (1971), Hansen & Ansell (1973),
Vriend (1969), Crites (1971), who have shown socio-economic
factors positively related to various aspects of career
decision making at different stages of development in the
west. Hyman (1956), Sewell, Haller & Straus (1957),

Pavalko (1965), and Shappell et al (1971) have also reported significant relationship of socio-economic status with career maturity. Some studies such as of Ansell & Hansen (1971) have also shown low SES subjects having delayed vocational development.

The findings of the study seem to support the contention mainly at VIII & X grade and on some indices at XII grade that career maturity is related to socio-economic determinants (Calia 1966). It affirms the theoretical expectation that students from high socio-economic backgrounds would be more exposed to experiences which aid in furthering their career maturity as their level of aspirations for themselves are unfettered by the negative experiences of economically and socially unsuccessful relatives. They are also more mobile geographically, and feel free to seek out opportunity wherever it may be found, whereas children from middle class and low SES background, are likely to experience uncertainity, and lack of support from the family in the absence of resources to enhance vocational development and they may thus lag behind the high SES group.

Intelligence

Table V-12 shows correlations of career maturity measures with intelligence. It may be noted that career choice attitudes (CCA) are significantly positively associated

Table V-12

CORRELATIONS OF MEASURES OF CAREER MATURITY WITH
INTELLIGENCE AT THREE GRADES FOR BOYS AND GIRLS

| Criterion measures | GRADES | | | | | |
| | VIII | | X | | XII | |
	Boys N=151	Girls N=142	Boys N=150	Girls N=136	Boys N=137	Girls N=153
CCA	.477**	.428**	.359**	.555**	.354**	.366**
SA	.354**	.248**	.138*	.222**	.210**	.034
OI	.474**	.321**	.314**	.278**	.279**	.056
GS	.391**	.327**	.269**	.213**	.328**	.249**
PL	.454**	.487**	.374**	.310**	.343**	.271**
PS	.396**	.234**	.273**	.302**	.142*	.025

*Significant at .05 level)
**Significant at .01 level) One tailed test

with intelligence at all grade levels in both sexes. The correlations range between .35 to .55. Thus high intellectual ability tends to be related to higher maturity in one's attitudes toward career decision making right from VIII grade to XII grade.

Intelligence is also significantly and positively related to self appraisal (SA) and occupational information (OI) at all grade levels for boys but not for girls at XII grade. A significant positive relationship is also seen between intelligence and goal selection (GS), and intelli-

gence and planning (PL) at all grade levels in both sexes. Problem solving (PS) seems to be associated with intelligence at VIII and X grade in both sexes and only in boys at XII grade.

The overall results largely provide support to the findings of other researchers, such as Super & Overstreet (1960), Crites (1965), Gribbons and Lohnes (1969), Super & Bohn (1970), Davis et al (1962) who have found intelligence related to several aspects of career maturity.

Lawrence & Brown (1976) in their study on XII grade students also found intelligence more highly related to some aspects of CMI than others. e.g., planning seemed more highly correlated with intelligence than self appraisal, though problem solving was also found significantly related to intelligence, which is only true of boys here, at XII grade. The present finding on planning correlating positively with intelligence is in line with those of CPS study of Super & Overstreet (1960) who state:

> "that the more intelligent boys did have a
> slight tendency to think more about the
> choices they needed to make, they tended to
> accept more responsibility for choice and
> planning and while they did not know about
> their preferred occupation they had done
> more planning."

Some other findings also tend to be supported such as of Hollender's (1971), who found increasing intellectual ability associated with increasing vocational decisiveness

for both males and females. Kelso (1975), Maynard and
Hansen (1970) have also reported IQ correlating positively
with vocational choice attitudes.

There is further support for Parlikar's (1973) study
which shows a significant positive relationship of
intelligence with career choice attitudes (CCA) in VIII,
IX, X & XI grades for both sexes and with competence test
total score in VIII, IX & X grade for boys.

Holden (1961) found lower ability subjects change
the level of their vocational choices more often than high
ability subjects from VIII to XI grades.

Witty and Lehman (1930), in their study of relation-
ship of intelligence scores with vocational attitudes quiz
concluded that "the dull boys appeared to choose occupations
some what indiscriminately. Maturity of response was
associated positively with mental age in all sections of
this quiz".

The positive relationship between intelligence and
goal selection at all grade levels in both sexes suggests
that intelligence is related to the appropriateness of
individual vocational objectives, for the studies of
Grace (1931), Sparling (1933) and others indicate that the
more intelligent individuals tend to select occupational
goals more wisely.

Thus the results tend to show high career choice
attitudes (CCA), goal selection (GS) and planning (PL)
significantly related to high intellectual ability at all
grade levels in both sexes. Students higher in intelligence
can be expected to be more mature in their choice attitudes
expressed in terms of greater involvement, orientation,
decisiveness, independence and compromise in decision
making right through the adolescent stage. They also may
have greater ability for setting goals and for planning
steps to reach their goals,. Intelligence also tends to be
associated with ability of having a clearer self appraisal,
more occupational information and problem solving in boys
at all grade levels. In XII grade girls, intelligence has
no relationship with self appraisal, occupational information
and ability to solve various problems in educational and
vocational decision making. Perhaps at this grade, girls
of high intellectual ability lack enough interest in
gaining information about themselves and world of work, so
they do not exercise their intelligence to do so, but girls
low in intelligence may be gaining in knowldge of self,
world of work and competency to solve various problems by
the time they come to grade XII, though they continue to
be low in maturity of choice attitudes, goal selection and
planning.

Here, it may also be worthwhile to discuss the
results obtained with crystallized intelligence (Gc),

(Cattell 1941, 1943, 1963) which have been obtained on factor B of HSPQ. It is expected that a measure of crystallized intelligence (Gc) may be better related to career maturity than fluid intelligence (Gf) since verbally expressed career behaviours may show better relationship to verbal intelligence (Gc).

The results (intercorrelation matrix in appendix II) show Gc significantly related to all aspects of career maturity in boys of VIII grade, but in girls, only with some indices such as career choice attitudes (CCA) and occupational information (OI).

At X grade, in boys, there is a significant positive correlation with career choice attitudes (CCA), planning (PL) and problem solving (PS) and in girls with CCA and PL.

At XII grade, there is a significant positive correlation with career choice attitudes (CCA), self appraisal (SA) and occupational information (OI), and in girls at this grade there are no significant correlations.

The results with Gf (Table V-12) tend to show higher and more significant correlations with all aspects of career maturity in both sexes at VIII and X grades. At XII grade also, with a few exceptions, all the correlations are significant. Perhaps the greater number of insignificant correlations with Gc (Factor B, HSPQ) are due to the fact that it is being measured by only a few items of H.S.P.Q.

whereas a separate measure of Gf (Culture Fair Intelligence Test) has been used which lends the findings incomparable here. However, it may be an interesting point of further investigation to study the relationship of two types of intelligence, verbal and figural, with various measures of career maturity.

Level of Vocational Aspiration

Table V-13 shows correlations between level of vocational aspiration (LVA) and measures of career maturity. There is a significant positive relationship between career choice attitudes and level of vocational aspiration at all grade levels in both boys and girls. Findings of Halpern (1972) and Bathory (1967) seem to find support by these results, who found significant correlations for males and females between attitude scale and level of vocational aspiration. Results tend to show that higher the level of occupation aspired to, higher is the maturity in one's attitudes towards career decision making. This shows that the boys and girls who are aspiring to occupations with higher level of social prestige, are more oriented, involved, decisive and independent in their career decision making (the variables underlying career choice attitudes), at all grade levels.

Table V-13

CORRELATIONS OF MEASURES OF CAREER MATURITY WITH LEVEL OF
VOCATIONAL ASPIRATION AT THE THREE GRADES FOR BOYS & GIRLS

	GRADES					
	VIII		X		XII	
Criterion	Boys	Girls	Boys	Girls	Boys	Girls
Measures	N=151	N=142	N=150	N=136	N=137	N=153
CCA	.425**	.294**	.195**	.209**	.283**	.422**
SA	.251**	.168*	.013	.195**	.020	.057
OI	.302**	.241**	.090	.312**	-.052	.146*
GS	.235**	.216**	.273**	.204**	-.016	.166*
PL	.262**	.277**	.160*´	.343**	.117	.210**
PS	.283**	.107	.032	.134	-.060	.082

*Significant at .05 level) One tailed test
**Significant at .01 level)

Among the career choice competencies, self appraisal
is significantly and positively associated with LVA in both
sexes at VIII grade but only in girls at X grade.

Similarly LVA is significantly positively related to
occupational information (OI) in both sexes at VIII grade
but only for girls at X & XII grades. Thus it could be
inferred that girls with high level of vocational aspiration
are likely to have more occupational information and this

would be true of them at all grade levels, whereas for boys, it is only so at VIII grade.

LVA is related to goal selection (GS) and planning (PL) in boys at VIII and X grade, and not at XII grade, whereas in girls, it is related to GS and PL at all grade levels.

LVA is significantly positively associated with problem solving (PS), only for VIII grade boys.

However, significant positive correlations seem to suggest that boys and girls with high vocational aspirations have a tendency to look ahead into the future with a positive attitude towards career decision making. Their higher aspirations perhaps act as a drive for them to set goals for the future and they make efforts to select goals and to plan so that they will be able to pursue their desired vocations.

At XII grade level in boys, there is a significant relationship between LVA and career choice attitudes (CCA) but other career competencies are not related to LVA in this group. In girls at XII grade, significant correlations between LVA and occupational information (OI), goal selection (GS) and planning (PL) appear. Thus, in case of girls at school leaving stage, some of the career competencies also tend to be associated with higher vocational aspiration.

In general, except on CCA, the correlations between LVA and career maturity indices are lower at XII grade than at X and XIII grade. It is also seen that at X & XII grade the correlations for boys sample in general are lower than those for girls, showing lesser association of LVA with career maturity in case of boys at higher grade levels. Girls aspiring to occupations with more social prestige have not only maturity in their career attitudes but also tend to have more knowledge about world of work, ability to select a goal, and more planning competency.

The overall results show that in boys at VIII grade level, high aspiration seems to be associated with higher career maturity. This relationship is not maintained on all indices at X grade, as only on some indices relationship is significant, but in case of girls, the significant relationship is maintained from VIII to X grade. At XII grade, in case of boys, career competencies are not associated to aspiring to higher prestige occupations, whereas for girls at XII grade, it is associated to some of the career competencies. It may be said that girls with higher aspirations are thinking more in the direction of how to fulfill their higher aspirations, and through greater orientation and involvement, perhaps gain more occupational information. Their higher aspirations are also helping them in relating their capabilities to a proper goal and setting up high job goals for themselves helps them to make plans for achieving these goals.

Participation in School Activities

Table V-14 shows participation in school extracurri-
cular activities (PISA) significantly positively related
to career choice attitudes (CCA), for both sexes at VIII
grade level, only for boys at X grade level, and for both
sexes at XII grade level.

Self Appraisal (SA) is related to PISA for both sexes
at VIII grade, only for boys at X grade, and only for
girls at XII grade.

Occupational Information (OI) is related to PISA only
at VIII grade level for both sexes, and there is no relation-
ship between the two at any other grade level in any group.

Similarly goal selection (GS) is related to PISA for
both sexes at VIII grade, only for boys at X grade, and in
none of the groups at XII grade.

Planning (PL) is also significantly related to PISA,
for both sexes at VIII grade but only for boys at X grade
and only for girls at XII grade.

Problem solving (PS) is related to PISA only for boys
at VIII grade level and not with any other indices of career
maturity at other grade levels in any of the groups.

Thus results with PISA show greater association of
such activities with career maturity at VIII grade level

Table V-14

CORRELATIONS OF MEASURES OF CAREER MATURITY WITH
PARTICIPATION IN SCHOOL ACTIVITIES AT THREE
GRADES FOR BOYS AND GIRLS

	GRADES					
	VIII		X		XII	
Criterion	Boys	Girls	Boys	Girls	Boys	Girls
Measures	N=151	N=142	N=150	N=136	N=137	N=153
CCA	.272**	.465**	.268**	.113	.167*	.227**
SA	.142*	.143*	.197**	.132	.046	.138*
OI	.185*	.141*	.124	.034	.103	.054
GS	.147*	.223**	.238**	.021	.137	.040
PL	.168*	.311**	.197**	.089	-.064	.173*
PS	.278**	.054	.118	.067	.036	.127

*Significant at .05 level ⎞ One tailed test.
**Significant at .01 level ⎠

than at other grade levels. It seems greater participation
in school extra-curricular activities at this grade is
associated with greater maturity in career attitudes, clearer
self appraisal, more occupational information and a better
orientation to relate oneself to a future goal. It is also
associated, at this grade with knowledge of future course
of action (planning) and only in case of boys it helps in
solution of various educational and vocational problems.

At X grade level for boys, significant correlations appear with career choice attitudes, self appraisal, goal selection and planning but for girls none of the correlations are significant, showing no association of PISA with career maturity in girls of X grade.

At XII grade in boys, only one significant correlation appears with career choice attitudes and for girls, significant correlations are also appearing on career competencies such as self appraisal and planning in addition to choice attitudes.

The greater number of significant correlations appearing at VIII grade level perhaps show the importance of extracurricular activities at lower grade levels than at upper grade levels. At school leaving classes of X & XII, the students have to appear for Board Examinations. The schools also lay a greater emphasis on scholastic achievement and students devote more time to studies than to extra-curricular activities. Special coaching is arranged for them in the time allotted for extra-curricular work. Perhaps at higher grade levels students standing on scholastic achievement may show better relationship to career maturity than the participation in extra-curricular activities.

Positive correlations of career maturity for VIII class boys and girls, and for boys on some indices at X grade,

some what suggest that adolescent exploration through extra
curricular participation in activities such as sports, clubs
and various other cultural and social activities in school
may be associated to higher maturity of career attitudes,
better orientation to self and world of work and greater
planning. At XII grade, also higher participation in such
activities seems to be related to maturity in one's attitudes
towards work. No relationship between occupational informa-
tion and PISA at X & XII grade in both sexes is contrary
to the expectation that greater participation in such
activities would aid students in gaining more knowledge
about the working world.

Participation in out of school activities

Table V-15 shows correlations between participation
in out of school activities (PIOSA), and the measures of
career maturity. It is seen that career choice attitudes
are significantly, positively related to PIOSA, in boys and
girls, at all the grade levels. Thus participation in
various leisure time activities, hobbies, interests at home
and outside after school hours tend to be associated with
greater maturity in career choice attitudes, suggesting
that such students may be more oriented, involved, decisive
and independent in career decision making at the adolescent
stage.

Table V-15

CORRELATIONS OF MEASURES OF CAREER MATURITY WITH
PARTICIPATION IN OUT OF SCHOOL ACTIVITIES
AT THE THREE GRADES FOR BOYS & GIRLS

| Criterion Measures | GRADES | | | | | |
| | VIII | | X | | XII | |
	Boys N=151	Girls N=142	Boys N=150	Girls N=156	Boys N=137	Girls N=153
CCA	$.227^{**}$	$.475^{**}$	$.317^{**}$	$.288^{**}$	$.146^{*}$	$.273^{**}$
SA	$.168^{*}$	.126	$.134^{*}$	.031	$.156^{*}$	.123
OI	$.298^{**}$	$.220^{**}$	$.218^{**}$	$.187^{*}$	.034	.127
GS	$.231^{**}$	$.254^{**}$	$.291^{**}$	.125	$.198^{**}$	.116
PL	$.203^{**}$	$.297^{**}$	$.156^{*}$	$.158^{*}$	.009	$.220^{**}$
PS	$.233^{**}$	.113	$.157^{*}$	.083	.093	.114

*Significant at .05 level)
**Significant at .01 level) One tailed test

On career competencies it is seen that self appraisal (SA) is significantly related to PIOSA for boys at all grade levels, but not for girls at any grade level.

Occupational information (OI) is showing significant relationship with PIOSA, for both sexes at VIII & X grades, but not for any sex at XII grade.

Goal selection (GS) is related to PIOSA in boys at all grade levels, but in girls, only at VIII grade.

Similarly planning (PL) is showing significant positive correlation with PIOSA in both sexes at VIII & X grade and only in girls at XII grade level.

Problem Solving (PS) is associated with PIOSA, in only boys at VIII and X grade level, and in girls there is no relationship between the two at any grade level.

The correlations on self appraisal seem to suggest that in boys greater participation in various leisure time activities after school hours may aid them in knowing more about themselves (SA), but in girls engaging in such tasks is not related with their knowledge of themselves at any grade. Perhaps, girls know as to what they want and what they can do as they engage themselves in household activities and extra participation in other activities does not help them any more. However, for both sexes, greater participation in activities at home and outside seems to aid them in acquiring more information of the world of work (OI) at VIII & X grade, though not at XII grade.

For boys, participation in such activities also seems to be associated with ability to formulate a vocational goal (GS) at all grade levels, whereas for girls it is only so at VIII grade and not at X and XII grades.

There is a tendency for greater planning competency to be associated with participation in various activities

after school hours for girls at all grades and for boys,
only at VIII and X grades.

Similarly, problem solving competency tends to be
associated with participation in such activities only for
boys at VIII and X grade and not for girls at any grade
level.

The findings mainly at VIII & X grade tend to support
Dilly (1965) who found participation in extra-curricular
activities significantly related to decision making ability
in the high school years. Parnarai (1978) while validating
the CMI on adolescents in Thailand also found significant
relationship between CMI attitude scale and participation
in school extra-curricular activities both of which also
find support here.

The findings of Super & Overstreet (1960) have also
shown participation in school activities and out of school
activities significantly related to various indices of
career maturity. Jordaan (1974) reporting further on the
findings of the CPS study states that the boys who had
certain kinds of extracurricular experiences were likely
to be better informed about certain aspects of their
preferred occupation, to be weighing more alternatives and
to be further along in crystallizing and specifying a
vocational preference than boys who had not had such
experiences. But their results are not clear cut and the

correlations tend to be small (in .20s and .30s). It may be noted that similar range of correlations (Tables V-14, 15) have been found here also. The findings of Mathewson and Orton (1963) who found a significant positive correlation between extra-curricular activities and vocational maturity also seem to be supported.

The overall findings suggest that participation in out of school activities is associated with maturity of career attitudes but for choice competencies, this association is less imminent at XII grade level. Career competencies tend to show a relationship with participation in such activities for boys at VIII & X grades, but for girls, self appraisal and problem solving are not related to participation in out of school activities at VIII grade and at X grade. Goal selection is also not related to PIOSA for girls at X grade. In general, the correlations at XII grade appear to be lower than at VIII & X grade. Except on career choice attitudes and planning, all the other correlations for girls are insignificant at XII grade.

An Over View

The overall findings show that at VIII grade level, all the career maturity measures are significantly and positively associated with intelligence (INT), socio-economic status (SES), level of vocational aspiration (LVA), participation in school activities (PISA) and participation in out of school activities (PIOSA) in both sexes except

two measures, one, problem solving, which is not significantly related for girls, with level of vocational aspiration, participation in school activities and out of school activities and second, self appraisal, which is also not related to participation in out of school activities for girls at this grade.

At X grade, all the career maturity measures are significantly positively associated with intelligence and socio-economic status, for both sexes, except self appraisal, which does not show significant relationship with SES for boys. More variations due to sex have appeared in the relationship of different career maturity measures with LVA, PISA and PIOSA at this grade. The findings show that all the indices of career maturity except problem solving are significantly positively related to LVA for girls and for boys self appraisal, occupational information and goal selection do not show significant relationship with LVA. Similarly for boys, PISA yields significant positive correlations with career choice attitudes, self appraisal, goal selection and planning but for girls PISA is not associated with any of the career maturity measures at this grade level. PIOSA is also related significantly positively to all measures of career maturity for boys but for girls only with some measures such as career choice attitudes, occupational information and goal selection.

At XII grade, even the variables of socio-economic
status and intelligence which are showing significant
positive relationship with all career maturity measures at
VIII & X grade do not show significant relationship with
all career maturity measures. The relationship is varying
with various criterion measures and with sex.

Amongst all career maturity measures, career choice
attitudes are consistently positively related to all the
variables at all grade levels for both sexes. The second
career maturity measure which is most frequently appearing
to be related to all independent variables at all grade
levels irrespective of sex is planning.

Thus at higher secondary stage, choice attitudes and
planning are consistently positively associated with
variables of socio-economic status, intelligence, level of
vocational aspiration and participation in activities
irrespective of grade and sex. For other choice competencies
variations in relationship have appeared with variations in
grade level and sex.

2. The Correlations of Career Maturity measures
   with Fourteen Personality Factors

From the larger intercorrelation matrices for the
three grades, one submatrix has been drawn to show the
relationship of personality variables with the six measures

Table V-16

CORRELATIONS OF MEASURES OF CAREER MATURITY WITH FOURTEEN
PERSONALITY FACTORS AT THREE GRADES FOR BOYS AND GIRLS

Criterion	Sex/Grade	A			C			D			E			F			G	
		VIII	X	XII	VIII	X	XII	VIII	X	XII	VIII	X	XII	VIII	X	XII	X	XII
CCA	Boys	159*	091	149	057	310**	148	023	-169*	-031	-134	-092	-024	-001	-035	070	074	122
	Girls	244**	264**	-032	127	191*	138	-028	-096	-040	-010	-082	048	072	038	190*	148	074
SA	Boys	057	036	219**	139	103	045	127	-187*	006	-295**	-053	-180*	-071	-053	208*	217**	053
	Girls	117	192*	095	012	035	022	029	-078	-002	-119	-009	018	-148	-025	-003	024	-092
OI	Boys	109	031	167*	022	109	082	142	-181*	078	-319**	-136	-186*	-043	011	210	002	015
	Girls	227**	050	-031	004	118	095	-048	027	067	-100	-081	-057	118	079	019	040	-087
GS	Boys	128	089	148	-027	161*	074	136	-103	112	-206**	-074	-098	-047	-047	143	024	-001
	Girls	106	057	038	010	023	128	-019	-003	-097	090	-121	-153	093	-008	025	-010	156*
PL	Boys	162*	112	107	-080	182*	262**	109	-018	-081	-199**	-056	-093	061	016	022	030	-003
	Girls	-085	227**	-028	010	161*	085	-041	-078	-170*	-030	-066	-066	-037	-228**	053	022	095
PS	Boys	226**	-003	033	079	098	073	065	-039	-074	-152	-117	-183*	038	-029	-030	-005	022
	Girls	032	106	-077	-127	044	032	054	-098	-043	-083	-098	-095	024	129	002	002	143

Table V-16 Continued

Cri-terion	Sex/Grade	H VIII	H X	H XII	I VIII	I X	I XII	J VIII	J X	J XII	O VIII	O X	O XII	Q₂ VIII	Q₂ X	Q₂ XII	Q₃ VIII	Q₃ X	Q₃ XII	Q₄ VIII	Q₄ X	Q₄ XII
CCA	Boys	324**	221**	242**	-354**	-048	-147	-028	119	-078	-061	-120	-002	044	055	-078	184*	-080	001	-126	-188*	-198*
	Girls	266**	286**	255**	-266**	009	-125	-001	-056	-114	-007	-055	114	-132	-017	176*	122	165*	055	-417**	-299**	-174*
SA	Boys	240**	122	182*	-249**	-127	-030	046	056	-030	031	-147	097	030	001	-018	211**	075	190*	-084	-060	-060
	Girls	133	139*	059	018	-108	011	-083	009	123	102	033	-045	024	-150	-167*	-008	-078	-174*	-158	-133	029
OI	Boys	217**	136	068	-155*	009	-001	063	075	-057	-135	047	-055	095	-108	-047	221**	-037	200**	-107	-095	-027
	Girls	164*	064	027	030	055	-003	-024	-058	-010	076	140	109	-123	004	-121	066	072	065	-222**	-080	044
GS	Boys	294**	021	-084	-206**	-064	-109	103	030	-006	-003	-068	-059	162*	022	-025	079	-021	097	-071	-109	069
	Girls	060	046	139	-048	034	-018	-011	-099	-146	-056	080	080	060	-108	-162*	-082	034	072	-197*	041	-140
PL	Boys	163*	069	094	-099	-122	-114	-067	133	-034	104	-017	-087	061	009	-002	004	-139	082	023	-040	-070
	Girls	149	159	219**	-006	108	005	-041	-122	-091	025	010	029	-023	-126	039	-036	144	-150	-222**	-083	031
PS	Boys	382**	138	080	-305**	025	-042	-017	070	-076	-074	075	119	129	059	026	180*	-118	236**	-096	030	-106
	Girls	168*	071	153	056	-055	037	-005	-005	062	271**	-052	107	-069	-027	135	-025	024	052	-078	-150	-049

Decimals Omitted

VIII N = 151
X N = 150
XII N = 137

* Significant at .05 level } Two tailed test
** Significant at .01 level

for career maturity at three grade levels for both boys and girls (Table V-16).

The relationship of each personality factor with each criterion measure of career maturity is being discussed separately.

Factor-A

The results show that factor A (sociability) has a significant positive correlation with CCA, PL and PS for boys, and with CCA and OI for girls at VIII grade.

At X grade, for boys, there is no significant correlation between factor A and any indices of career maturity but for girls, there is a significant positive correlation with CCA, SA and PL.

At XII grade, for boys, factor A has a significant positive correlation with SA and OI. For girls, none of the correlations are significant.

A positive correlation on factor A (Sociability), with an indices of career maturity would show, that a warm hearted, good natured, easy going, co-operative, attentive to people and adaptable boy or girl may have higher maturity in his career attitudes and career competencies.

The results suggest therefore, that sociable and out going temperament may be related to maturity of career

attitudes in boys and girls at VIII grade. This relation-
ship persists only for girls at X grade level as there is
no relationship between factor A and career maturity in
boys. VIII grade boys, who are more outgoing, also tend
to show greater planning and problem solving competency,
whereas girls of such a temperament, at VIII grade, may
have more of occupational information. The girls of X grade,
who are sociable, indicate a better appraisal of themselves
and show more planning. Similarly at XII grade, easy going
and out going boys may have better self appraisal and more
occupational information. For girls, at XII grade, there
is no relationship between factor A and career maturity.

The positive correlations with some indices seem to
suggest that an outgoing, social and friendly person being
more exposed to the outer world may have better competency
in dealing with various vocational developmental tasks.

Factor C

Factor C (ego strength) is not significantly related
to any indices of career maturity at VIII grade in either
sex.

At X grade, for boys, there is a significant positive
relationship with CCA, GS and PL and for girls with CCA
and PL.

At XII grade, for boys, factor C is related to PL
and for girls at this grade it has no significant relation-
ship with any of the indices.

Since all the correlations that have appeared signi-
ficant are positive, they suggest that perhaps a person who
is emotionally mature, stable, restrained, having a capacity
for frustration tolerance, is also mature on some aspects
of career maturity. Findings are scant on the relationship
of this factor to any aspect of vocational behaviour but
some evidence on the relationship of ego strength to
vocational interest development shows that an individual's
ability to integrate his experiences and organize them into
consistent behavioural tendencies is related to his degree
of interest patterning (Crites 1960). The findings indicate
a moderately high correlation (r = .46) between ego strength
and interest patterning in male subjects. Small (1953)
defining ego strength in terms of adjustment status, found
that better adjusted boys were more realistic in their first
choice than the maladjusted ones.

However, the results here indicate, that VIII grade
boys and girls career maturity has no relationship with ego
strength. At X grade, high ego strength seems to be related
to maturity in career attitudes and greater planning
competency in both sexes but in boys, it also tends to be
related with ability to formulate a vocational goal. At

XII grade, boys with this characteristic trait may be good planners.

Factor D

Factor D (excitability) shows no significant correlation at VIII grade in any of the groups.

At X grade, for boys, there is a significant negative relationship with CCA, SA and OI. For girls none of the correlations appear significant.

At XII grade, only for girls, there is one significant negative correlation with PL.

Though it is seen, that there are only some stray significant correlations showing significant negative relationship between excitability and some career maturity measures in X grade boys and XII grade girls, however, these suggest that a highly impatient, showing off, nervous, excitable person would be low in career maturity. Characteristics which are indicative of general immaturity in behaviour, seem to be related here to immaturity in career attitudes, lack of adequate self knowledge and knowledge of the world of work in boys, at X grade. In XII grade girls, this tends to be reflected in poor planning. However, most of the correlations are very low and insignificant suggesting no relationship between factor D and career maturity.

Factor E

Factor E (Dominance) shows significant negative correlations for VIII grade boys, with all measures of career maturity except problem solving and career choice attitudes. For girls of VIII grade this factor yields no significant correlations showing no relationship of this factor to career maturity for this group.

At X grade also, none of the correlations are significant in either sex showing no relationship between dominance and career maturity at this grade level.

At XII grade, for boys, there is significant negative relationship with SA, OI and PS and for girls, no correlations are significant.

A few researches showing relationship of career maturity with dominance - submission are quite inconsistent. Most of the insignificant correlations except for VIII grade boys tend to agree with the findings of Parlikar (1973) who found no significant relationship between dominance-submission and vocational maturity at any grade level from VIII to X. However, Bartlett (1968) found dominance positively related to vocational maturity. But the findings of the present study indicate a negative relationship between dominance and career maturity at VIII and XII grade for boys on some aspects of career decision making. For

girls, no significant correlations appear at any grade
level, showing this trait not related to career maturity
in girls.

Choice attitudes do not seem to be related to this
trait at any grade level, whereas choice competencies
except PS for VIII grade boys, tend to be related to docile,
submissive, coventional and humble temperament. Such boys
at XII grade, have a slight tendency to show better self
appraisal, more occupational information and problem solving
competency.

Factor F

Factor F (Surgency) also shows, only a few significant
positive correlations at X and at XII grade. At VIII grade
none of the correlations are significant. Most of the
correlations at all grades are low and insignificant. Those
which are significant, are showing a positive relationship
of factor F (surgency) with PL in X grade girls, with SA and
OI in XII grade boys and with CCA in XII grade girls.

A positive relationship of factor F (surgency) with
an indices of career maturity would show that a debonair,
happy go lucky, light hearted, cheerful boy or a girl may
be more career mature, and it appears to be so for planning
competency in X grade girls. XII grade boys of such a
temperament tend to have better self appraisal and occupa-
tional information, and girls more maturity in their choice
attitudes.

Factor G

Similar trend of some stray correlations appearing significant is also seen with correlation of factor G, Super-ego strength, with career maturity.

In VIII grade girls, there is a significant positive relationship with only OI.

Similarly in X grade boys, there is one significant correlation with SA, and in XII grade girls, with GS.

However, a significant positive relationship between factor G and career maturity indices, would tend to show conscientious, disciplined persons, dominated by sense of duty, to be high in career maturity. Some aspects of vocational behaviour have been studied with relation to this factor. Meadow (1955) formulating hypotheses about certain personality types and vocational choice says that a person who has a stringent superego structure may be more dissatisfied with his occupational choice than one with a normal super ego. Similarly Csirszka (1969) found conscientiousness, behaviour control and ability to meet possible moral conflicts, as some of the personal features helpful in realizing vocational ambitions.

There are a few significant positive correlations which seem to suggest that conscientious, duty bound, VIII grade girls to have more knowledge of world of work,

X grade boys to be better self appraisers and XII grade girls to have better ability to relate self to work.

· Factor H

Factor H (adventurousness) shows significant positive correlations with all indices of career maturity for VIII grade boys. For girls, there is significant positive correlation with CCA, OI and PS.

Atxgrade, factor H is related significantly positively with CCA in both sexes and it also yields significant positive correlation with SA in X grade girls.

At XII grade, for boys, factor H is related significantly positively with CCA and SA. For girls, at XII grade, it is significantly positively related with CCA and PL.

It is seen that factor H, adventurousness is showing significant positive relationship with various aspects of career maturity at three grade levels. A positive relationship of career maturity measures with factor H would indicate that adventurous, active, outgoing, friendly, carefree boys and girls may be high on career maturity.

The factors A+, F+ and H+ combine to give the second order factor of extraversion on H.S.P.Q. It has been found that on all these three factors (A,F & H) there are positive correlations with indices of career maturity.

Adolescence being the period of exploration, it is expected that those who are more outgoing, social and friendly with others would perhaps be better able to explore themselves and the outside world and thus they may have greater maturity in handling vocational developmental tasks. However, no consistent findings are available on the relationship of extraversion to vocational maturity. Chauhan (1975) found more vocationally mature girls to be more extroverted but opposite was the case for males. Gupta (1973) found significant differences in the occupational choices of extroverts and introverts. Parlikar (1973) found negative correlations of extraversion with competence test in VIII and X grade boys and with choice attitudes, in IX grade girls.

Nevertheless, results obtained here seem to suggest that, at VIII grade, boys who are adventurous tend to have greater maturity in career attitudes, and career competencies, whereas for girls at this grade, adventurousness seems to be associated with only maturity in career attitudes, occupational information and problem solving.

At X grade, boys with such a temperament may be high on career attitudes but girls, in addition to being mature in their choice attitudes may also tend to have more knowledge about themselves. At XII grade also, in boys, adventurous temperament seems to be associated with better

orientation, involvement and independence in decision
making, and a tendency to have a clearer self appraisal,
whereas outgoing adventurous girls of XII grade tend to
have greater maturity in choice attitudes and planning
competency.

Factor I

Factor I. (Sensitivity) shows significant correlations
only at VIII grade level, and not at X and XII grades.
There is significant negative relationship of factor I for
VIII grade boys with all the career maturity measures
except with planning which yields an insignificant correla-
tion. For girls, at this level, there is significant
negative relationship with only CCA, as none of the other
competency indices have a significant relationship.

A higher than average score on factor I contributes
to the second order factor of neuroticism. Hence, the
results here indicate no relationship between this component
of neuroticism and career maturity at X & XII grades which
may be supported by the findings of Parlikar (1973) who
found no relationship between neurosis and measures of
vocational maturity in X, XI grade boys and girls, however
with IX grade boys and girls he found significant negative
correlations between choice attitudes and neurosis.

The results at VIII grade seem to indicate that boys
and girls who are not sensitive and sentimental but are

self reliant and practical tend to be more mature in their
choice attitudes than those who are highly sensitive. VIII
grade boys, with such a temperament also tend to be high on
all choice competencies except planning. For girls, at
this grade none of the competencies are related to sensi-
tivity. At X & XII grade also, no significant correlations
appear which shows this trait not related to career maturity
at these stages.

Factor J

Factor J (Passive individualism) shows no significant
correlation with any indices of career maturity. All the
correlations are low and insignificant, suggesting no
relationship of this factor with career maturity at any
grade level in either boys or girls.

Factor O

Factor O (Guilt-proneness) also gives a similar
trend of no significant correlations at any grade level,
except in VIII grade girls where it is showing a significant
positive relationship with problem solving. This suggests
that VIII grade girls, who are more worried and tense may
be more capable of solving problems which is contrary to
the expectation. Perhaps guiltprone person's very fussy
and scrupulous nature, tendency to overreact to difficulties
and going into minutest of details enables him to find
solutions to his problems.

Most of the low and insignificant correlations on this factor also seem to suggest no relationship between factor O and career maturity.

Factor Q_2

Factor Q_2 (self sufficiency) has a significant positive correlation, with only GS for VIII grade boys. For XII grade girls, there is a significant positive correlation with CCA and a significant negative correlation with SA and GS. None of the correlations in any other group are significant. Evidence on the relationship of self sufficiency to career maturity is also inconsistent. Parlikar (1973) found no significant correlation between self-sufficiency and vocational maturity for either sex at VIII, IX, X & XI grades. However, Bartlett's (1968) findings show autonomy and self-confidence positively related to vocational maturity.

Nevertheless, positive correlations of self sufficiency with goal selection in VIII grade girls, and with career choice attitudes in XII grade girls, seem to suggest that self confident, resourceful, individualistic, seclusive persons tend to be high on these measures of career maturity, but all the same, negative correlations of self sufficiency with self appraisal, and goal selection for XII grade girls, indicate that perhaps seclusive, reflective, introverted temperament does not help in knowing one's self, and

selecting a suitable vocational goal in XII grade girls though it may aid them in having more mature career attitudes. The findings on this factor being inconsistent need to be further investigated for conclusive evidence.

Factor Q_3

Factor Q_3 (self control), shows a significant positive relationship for VIII grade boys with CCA, SA, OI and PS. For girls, at this grade level, there is no significant relationship with any indices.

At X grade, for boys, no significant correlations have appeared, and for girls, there is only one positive correlation with CCA.

At XII grade, for boys, significant positive correlations appear with SA, OI and PS, but for girls at this grade, there is a significant negative correlation with SA.

A high score on this factor reflects the degree to which the individual has adapted and invested his interest in an ideal "self regarding sentiment." Such a person is self controlled, ambitious to do well, concerned with social image, considerate and farsighted, whereas lower score on this factor contributes to second order anxiety factor, as lower regard for stable self sentiment is associated with anxiety.

The positive correlations with this factor show that VIII grade boys who have greater self control and self regarding sentiment are more mature in choice attitudes. They may have more knowledge about themselves, more occupational information and ability to solve educational and vocational problems. Xth grade girls with more self control and steadiness seem to have more maturity in career attitudes. XII grade boys, with higher self sentiment, tend to show better self appraisal, more occupational information and problem solving competency.

The correlations of self control with self appraisal also seem to be rather contradictory between sexes. For VIII grade and XII grade boys, self regard is associated positively with self appraisal, meaning persons with greater self control and self regard may have a better appraisal of themselves, whereas in case of XII grade girls, there is a negative correlation between self control and self appraisal which suggests low self regard associated with better self appraisal competency which is contrary to what may be expected.

Factor Q_4

Factor Q_4 (ergic tension) shows significant negative correlations on some indices of career maturity at some grade levels. A negative correlation of this factor with

career maturity would indicate that those who are irrationally worried, tense, irritable, and frustrated would be low in career maturity.

The results show that at VIII grade, in boys none of the correlations are significant, but in girls, there are significant negative r's with CCA, OI, GS and with PL.

At X & XIIth grades, in both sexes, there is significant negative relationship with career choice attitudes. On career competencies at X & XII grade level, this factor yields no significant correlations. The results show, that X and XII grade boys, who are tense, and worried of being criticized by others, tend to be low in maturity of career attitudes, whereas for girls this factor is associated, with low maturity in choice attitudes, at all the three grade levels.

At VIII grade, girls, with worried, tense temperament may also be having inadequate occupational information and inadequacy in selecting a proper vocational goal. They may also exhibit poor planning. At higher grades (X & XII), no relationship is seen between ergic tension and any of the choice competencies.

An Over View

Personality factors which have shown positive correlations with various aspects of career maturity are

sociability (A), ego strength (C), surgency (F), super
ego strength (G), adventurousness (H) and those which are
showing negative correlations are excitability (D),
dominance (E), senstivity (I), and ergic tension (Q_4).
Two factors self-sufficiency (Q_2) and self control (Q_3)
have both positive and negative correlations with career
maturity indices. The correlations largely show that those
personality traits which are indicative of out going,
sociable, friendly, carefree, adventurous temperament
characterized by high ego integration, emotional stability
and conscientiousness tend to be positively associated with
career maturity, on its various aspects. With some traits
there are higher and more significant correlations and with
some others, there are lower and fewer significant correla-
tions. The different personality traits vary in their
relationship with career maturity, with variation in grade
level and sex. Most of the personality traits which would
be suggestive of general adjustment and maturity of the
individual also seem to be positively related to maturity
in career decision making, except two contradictions which
have appeared; one with factor O (guiltproneness), which
has shown one positive correlation with problem solving,
and the other with factor Q_3 (self control) which has also
shown one negative correlation with self appraisal.

The significant negative correlations on factors D,
E, I and Q_4 show that excitable, impatient, aggressive,

stubborn, overprotected, sensitive, seclusive, tense and worried persons may tend to be low on various aspects of career maturity. Thus, the findings tend to support those of Crites and Semler (1967) who correlated career choice attitudes with indices of emotional and personal development, and found the two significantly related. The hypothesized relationship between psychological adjustment and indices of vocational maturity by Super (1957) also perhaps find support.

A few other studies, correlating choice attitude and personality traits (Gough & Heilburn 1965; Bartlett 1968; Chapin 1975; Hollender & Schalon 1965; Heilburn 1960 and Bergwall 1975) have also found some personality traits which may be indicative of general personal adjustment of the individual significantly positively related to vocational maturity. This seems to support the view that the individuals who are better adjusted may be freer to deal with vocational developmental tasks than those who are less well adjusted.

Largely, the correlations with personality traits which are significant appear to be low to moderate ones. Some traits do not yield any significant correlations with career maturity measures at the three grade levels.

At class VIII, personality traits, such as, ego strength (C), excitability (D), dominance (E), and passive

individualism (J) did not yield any significant correlations
with any aspect of career maturity. Similarly, no significant
correlations appear for dominance (E), senstivity (I),
passive individualism (J) at X grade and for sensitivity(I),
passive individualism (J) and gultproneness (O) at XII grade,
However this does not indicate that these personality traits
may not play any role in the career development of students
at these grade levels. The reason that these personality
traits may have failed to appear, to be related to career
maturity, could perhaps be assigned to a complex interplay
of factors shaping the career behaviour of students especially
at the adolescent stage. Adolescence, being a 'stormy stage
of development' (Blocher 1973), is characterized by a
struggle for emotional and economic independence. G. Stanley
Hall, a pioneer of the child study movement in the latter
part of the century characterized this stage as one of
'sturm and Drang' (Storm and Stress). Thus a variety of
other factors intervening between the experiences of students
from junior high school to school leaving stage tend to
obscure the impact of single variables. We can agree with
Roe (1962) that whatever relationships are found will
probably be low to moderate ones rather than moderate to
high ones at this stage.

3. Step-wise Multiple Regression Analysis

One of the objectives of the present investigation, as stated earlier, was to find out the best combination of certain socio-psychological variables as predictors of career choice attitudes and career choice competencies at the three grade levels for boys and girls. While doing so, it is possible to ascertain from a pool of variables, those, which will cumulatively account for maximum variance in the criterion measure. Although the information yielded by the pattern of correlations between career maturity measures and each of the independent variable measures is suggestive, but in order to identify those variables which in their best combination would contribute to variance in the criterion, multiple regression analysis was carried out.

"Multiple regression analysis is a method of analyzing the collective and separate contributions of two or more independent variables X to the variation of a dependent variable Y (Kerlinger & Pedhazur, 1973)".

The square of multiple correlation (R^2), called the coefficient of determination, shows the proportion of variance of the criterion accounted for by different predictors. Stepwise multiple regression analysis enables us to know the most relevant variables which account for maximum variance in the criterion from the total set of

variables. Thus, all the independent variables, namely
intelligence, socio-economic status, level of vocational
aspiration, participation in school activities and parti-
cipation in out of school activities, and fourteen
personality factors, were taken as one set of predictors
and each of the six career maturity measures as criterion.
Step wise multiple regression has been used to identify the
best set of variables which will predict career maturity
at each grade level and sex group.

In the step-wise procedure the independent variable,
having the highest zero order correlation with the criterion,
is entered first into the analysis. The variable at the
next step is the one that produces the greatest increment
to R^2, after having taken into account the variable already
in the equation. Thus, it is the variable that has the
highest partial correlation with the dependent variable after
partialling out the variable already in the equation. The
second variable will show the incremental variance,
attributed to the second variable, using this procedure
significant predictors for each criterion at each grade
level VIII, X & XII and for each sex group have been worked
out.

The step-wise multiple correlations of VIII grade
boys for criterion career choice attitudes (Table V-17)
show five variables in order of importance, as significant

Table V-17

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH CAREER CHOICE ATTITUDES FOR VIII GRADE BOYS (N=151)

Step No.	Predictor Variables	MR	R^2	Increment in R^2	F ratio of increment in R^2	Df n_1, n_2
1.	INT	.477	.227	—	43.78**	1, 149
2.	INT, I	.550	.303	.076	15.83**	1, 148
3.	INT, I, LVA	.590	.349	.046	10.45**	1, 147
4.	INT, I, LVA, H	.624	.389	.040	9.52*	1, 146
5.	INT, I, LVA, H, SES	.637	.406	.017	4.25	1, 145
6.	INT, I, LVA, H, SES, F	.649	.421	.015	3.75	1, 144

Step No. 5   Significant Predictors
              INT, I, LVA, H, SES

Regression Coefficients   Constant
.238, -.411, .112, .375, .075   14.03

Table V-18

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH CAREER CHOICE ATTITUDES FOR VIII GRADE GIRLS (N=142)

Step No.	Predictors Variables	MR	R^2	Incement in R^2	F ratio of increment in R^2	Df n_1, n_2
1.	PIOSA	.476	.226	—	40.91**	1, 140
2.	PIOSA, Q_4	.574	.330	.104	21.66**	1, 139
3.	PIOSA, Q_4, INT	.623	.388	.058	13.18**	1, 138
4.	PIOSA, Q_4, INT, I	.633	.400	.012	2.72	1, 137

Step No. 3   Significant Predictors
              PIOSA, Q_4, INT

Regression Co-efficients   Constant
.248, -.620, .222   15.05

*Significant at .05 level

**Significant at .01 level

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predictors. The MR and R^2 for the total set of significant predictors are .64 and .41 respectively, which shows that 5 significant predictors in their present combination contribute 41% to variance in the criterion. It is seen that F ratio[*]is significant upto the fifth step hence the step wise analysis is terminated at the sixth step.

Intelligence (INT) is appearing as most significant predictor (R^2 = .23) of career choice attitudes for VIII grade boys, accounting for almost half of the variance of the total variance (.41) contributed by five predictors. Intelligence is followed by personality trait of sensitivity (I) which is adding 7.6% to the R^2. Level of vocational aspiration (LVA), adventurousness (H), and socio-economic status (SES) are other variables which are significantly adding 4.6%, 4.0% and 1.7% respectively to the R^2. The last variable surgency (F) does not increase the R^2 significantly. Hence, the variables upto the fifth step are the best set of predictors (in their present combination, within the sample) for predicting career choice attitudes of VIII grade boys. The regression co-efficients of the

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[*]F ratio tells us whether increment in R^2 at each step is significant and whether an added variable at a particular step contributes significantly to the variables already in the regression equation to justify its inclusion.

last step till which the increment in R^2 was significant have been retained for the final regression equation. The negative co-efficient of 'I' (Senstivity) indicates that other things being equal, the individual who is high on choice attitude is low on this trait.

Table V-18 presents significant predictors of career choice attitudes for VIII grade girls. Participation in out of school activities (PIOSA) has appeared as the most significant predictor followed by ergic tension (Q_4) and intelligence. The composite of these three predictors have a MR of .62 contributing 39% to the variance in the criterion. Addition of sensitivity (I) at the fourth step does not increase the R^2 significantly (F = 2.72   p   .05). Thus variables at 3rd step are retained for the regression equation for predicting choice attitudes. Participation in out of school activities contributes 22.6% towards variance in the criterion, and ergic tension (Q_4) and intelligence further add 10.4% and 5.8% respectively.

It is seen that VIII grade girls have a different set of predictors for predicting choice attitudes than those of boys, except intelligence which is common to both. In boys it appears as most important predictor contributing 22.7% to the variance in the criterion and in girls it is only adding 5.8% to the R^2. Thus, high intellectual ability seems to be more important for predicting choice

attitudes in case of boys than in case of girls. In boys
outgoing, adventurous temperament is a better predictor;
in girls, relaxed, calm, unfrustrated temperament predictor
better the maturity in choice attitudes at this level.

For boys of X grade (Table V-19) socio-economic
status (SES), ego strength (C), participation in out-of-
school activities (PIOSA) and intelligence, have appeared
as significant predictors. The MR for this set is .52.
Socio-economic status being the most important variable,
contributes 13% to the variance followed by personality
trait of ego strength (C), which is adding 7% to the R^2.
Participation in out of school activities and intelligence
are further adding 4.3% and 2.2% respectively. Since Q_2
does not increase the R^2 significantly, variables at the
4th Step are retained for the final regression equation.

For X grade girls (Table V-20), the most significant
set of predictors for career choice attitudes are intelli-
gence, socio-economic status, adventurousness (H) and
intelligence (B). The MR being .68, the best set of
predictors are contributing 46% to the variance in the
criterion.

For boys of XII grade (Table V-21), the best set of
predictors for career choice attitudes are SES, senstivity
(I), adventurousness (H) and intelligence. The significant
predictors have a MR of .53 of which first variable SES is
accounting for .19.

Table V-19

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH CAREER CHOICE ATTITUDES FOR X GRADE BOYS (N=150)

Step No.	Predictors variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1 n_2
1.	SES	.365	.133	-	22.74**	1, 148
2.	SES, C	.450	.203	.070	12.96***	1, 147
3.	SES, C, PIOSA	.496	.246	.043	8.30*	1, 146
4.	SES, C, PIOSA, INT	.518	.268	.022	4.40	1, 145
5.	SES, C, PIOSA, INT, Q_2	.534	.286	.018	3.60	1, 144

Step No. 4 Significant predictors
SES, C, PIOSA, INT

Regression Co-efficients
.063, .607, .194, .184

Constant
10.32

Table V-20

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH CAREER CHOICE ATTITUDES FOR X GRADE GIRLS (N=136)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1 n_2
1.	INT	.555	.308	-	59.78**	1, 134
2.	INT, SES	.605	.366	.058	12.08***	1, 133
3.	INT, SES, H	.656	.431	.065	15.12**	1, 132
4.	INT, SES, H, B	.678	.460	.029	7.07**	1, 131
5.	INT, SES, H, B, G	.688	.474	.014	3.50	1, 130

Step No. 4 Significant Predictors
INT, SES, H, B

Regression Co-efficients
.451, .159, .468, .806

Constant
9.08

* Significant at .05 level
** Significant at .01 level

For girls of XII grade (Table V-22), the best set of predictors for career choice attitudes, in order of importance are, level of vocational aspiration (LVA), intelligence, adventurousness (H), SES, and self sufficiency (Q_2). It may be noted here that level of occupation aspired to, is the most significant predictor of maturity in career attitudes in girls at this grade. The MR and R^2 for the five predictors are .57 and .32 respectively.

It may be noted that, to predict career choice attitudes, each grade and sex group has its own set of predictors, but some predictors such as intelligence and SES, are appearing at all grade levels, except in class VIII girls, where only intelligence and not SES has appeared. For boys at VIII grade, intelligence is excercising its maximum influence but at X & XII grades, socio-economic status factors appear more important. For girls, intelligence appears more important than SES at all the grades. Participation in out of school activities is significantly contributing towards maturity in choice attitudes for VIII girls and X boys. Adventurous, outgoing girls appear to be more mature at X & XII grade, whereas at VIII grade, girls having relaxed and calm temperament are more mature. In general, boys with emotional stability, unsentimental but friendly temperament are more mature in their attitudes towards career decision making.

The higher MR at VIII grade for both sexes and X girls, shows the the greater influence of the predictor

Table V-21

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH CAREER CHOICE ATTITUDES FOR XII GRADE BOYS (N=137)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1 n_2	
1.	SES	.437	.191	—	31.93**	1,	135
2.	SES, I	.485	.235	.044	7.02**	1,	134
3.	SES, I, H	.507	.257	.022	3.92*	1,	133
4.	SES, I, H, INT	.529	.280	.023	4.18	1,	132
5.	SES, I, H, INT, Q_3	.544	.297	.017	3.20	1,	131

Step No. 4 Significant Predictors SES, I, H, INT

Regression Co-efficients .169, -.430, .314, .175   Constant 22.42

Table V-22

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH CAREER CHOICE ATTITUDES FOR XII GRADE GIRLS (N=153)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1 n_2	
1.	LVA	.423	.178	—	32.65**	1,	151
2.	LVA, INT	.497	.247	.069	13.80**	1,	150
3.	LVA, INT, H	.524	.275	.028	5.83*	1,	149
4.	LVA, INT, H, SES	.552	.305	.030	6.38*	1,	148
5.	LVA, INT, H, SES, Q_2	.568	.323	.018	3.91	1,	147
6.	LVA, INT, H, SES, Q_2, Q_3	.576	.331	.008	1.74	1,	146

Step No. 5 Significant Predictors LVA, INT, H, SES, Q_2

Regression Co-efficients .190, .221, .358, .106, .375   Constant 8.75

*Significant at .05 level
**Significant at .01 level

variables on criterion choice attitudes at these grade levels than for X boys and XII (both sexes).

Table (V23) presents best set of predictors for criterion self appraisal for VIII grade boys. Intelligence appears as the most significant predictor. The other variables further adding to the prediction are, intelligence (B), dominance (E), SES and senstivity (I). It may be noted here that intelligence (Gf) is followed by intelligence, B (Gc), the H.S.P.Q. personality factor, which is further adding to the knowledge of self appraisal competency by 4.5%. Thus, both types of intelligence, contribute significantly to the prediction of self appraisal competency.

For girls at VIII grade (Table V-24), the only significant predictor for self appraisal appears to be SES, having a MR of .27. As is evident, in case of boys at VIII grade, a combination of intellectual, temperamental and social class factors appear as significant variables for predicting self appraisal competency. In girls, only social class factors have appeared important for prediction.

The best set of predictors of self appraisal for X grade boys, (Table V-25) are super-ego strength (G) and participation in school activities (PISA) with a MR of .29 and R^2 .08. The best set of predictors tend to show that characteristics of conscientiousness, sense of moral

Table V-23

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH SELF APPRAISAL FOR VIII GRADE BOYS (N = 151)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1, n_2
1.	INT	.354	.126	—	21.41**	1, 149
2.	INT, B	.413	.171	.045	8.04***	1, 148
3.	INT, B, E	.466	.217	.046	6.27*	1, 147
4.	INT, B, E, SES	.487	.247	.030	5.76*	1, 146
5.	INT, B, E, SES, I	.516	.267	.020	4.00*	1, 145
6.	INT, B, E, SES, I, Q_3	.529	.280	.013	2.60	1, 144

Step No. 5   Significant Predictors   Regression Co-efficients   Constant
INT, B, E, SES, I   .061, .398, -.208, .041, -.133   3.90

Table V-24

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH SELF APPRAISAL FOR VIII GRADE GIRLS (N=142)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1, n_2
1.	SES	.272	.074	—	11.20**	1, 140
2.	SES, F	.314	.099	.025	3.85	1, 139

Step No. 1   Significant Predictor   Regression Co-efficient   Constant
SES   .049   4.36

* Significant at .05 level
** Significant at .01 level

Table V-25

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH SELF APPRAISAL FOR X GRADE BOYS (N = 150)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1, n_2
1.	G	.217	.047	–	7.32^{**}	1, 148
2.	G, PISA	.289	.084	.037	5.97^{*}	1, 147
3.	G, PISA, D	.325	.106	.022	3.60	1, 146

Step No. 2   Significant Predictors   Regression Co-efficients   Constant

            G, PISA   .174, .065   2.97

Table V-26

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH SELF APPRAISAL FOR X GRADE GIRLS (N=136)

Step No.	Predictor Variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1, n_2
1.	SES	.230	.053	–	7.53^{**}	1, 134
2.	SES, H	.302	.091	.038	5.68^{*}	1, 133
3.	SES, H, Q_2	.336	.113	.022	3.43	1, 132

Step No. 2   Significant Predictors   Regression Co-efficients   Constant

            SES, H   .048, .134   3.74

*Significant at .05 level
**Significant at .01 level

standards, responsibility and greater participation in
school extra-curricular activities may aid boys of X grade
in gaining more knowledge about themselves.

X grade girls self appraisal competency (Table V-26)
can be better predicted by socio-economic status (SES) and
adventurousness (H). These two predictors, having a MR of
.30, contribute 9% to the variance in the criterion. SES,
the first variable to appear, contributes 5.3% and H further
increases the prediction by 3.8%. The best set of
predictors indicate that girls coming from high socio-
economic background with an adventurous, out going tempera-
ment, can be expected to know more about themselves.

The best set of predictors for XII grade boys
(Table-V-27) self appraisal competency are, sociability(A),
intelligence (B) and self control (Q_3). The total MR for
these three variables is .35 with an R^2 of .12. Variables
at the 3rd step contribute to the final regression equation.

For XII grade girls, (Table V-28) self control (Q_3)
and self sufficiency (Q_2) have appeared as significant
predictors with a MR of .23 and together they contribute
5.5% to the variance in the criterion. It is noted that
in boys, easy going, warm, adaptable characteristics combined
with intelligence, higher self control and self regarding
sentiment contribute to the knowledge of self appraisal

Table V-27

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH SELF APPRAISAL FOR XII GRADE BOYS (N=137)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df $n_1 \ n_2$
1.	A	.219	.048	—		1, 135
2.	A, INT	.288	.083	.035	6.87**	1, 134
3.	A, INT, Q_3	.347	.120	.037	6.67*	1, 133
4.	A, INT, Q_3, H	.372	.138	.018	6.06*	1, 132
					2.77	

Step No. 3   Significant Predictors   A, INT, Q_3

Regression Co-efficients   .112, .075, .168   Constant   4.02

Table V-28

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH SELF APPRAISAL FOR XII GRADE GIRLS (N=153)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df $n_1 \ n_2$
1.	Q_3	.174	.030	—		1, 151
2.	Q_3, Q_2	.234	.055	.025	4.72*	1, 150
3.	Q_3, Q_2, SES	.271	.074	.019	4.60*	1, 149
					3.06	

Step No. 2   Significant Predictors Q_3, Q_2

Regression Co-efficients   -.144, -.134   Constant   11.49

* Significant at .05 level
** Significant at .01 level

whereas for girls at this grade self sufficiency (Q_2) and self control (Q_3) contribute negatively to the regression equation. Thus girls who are conventional, strongly value social approval but with a low self regarding sentiment seem to be better self appraisers.

It is further seen that at XII grade, in both sexes, only the psychological variables, especially personality traits, tend to appear as significant predictors, and at lower grades (VIII & X), environmental variables of SES and participation in school activities also seem to be contributing significantly to the knowledge about self. Thus, while assessing self appraisal of students at XII grade, knowledge about psychological make up of the students may be more important, but at VIII & X grade the importance of environmental factors may also be kept in mind.

The total relationship of the predictors with criterion (MR) is highest for VIII grade boys than for other grade levels which is suggestive of their being better predictors of self appraisal at VIII grade than at other grades.

Table V-29, gives the best set of predictors for boys of VIII grade on occupational information. The predictors are intelligence, SES and dominance (E), giving a MR of .57 and R^2 .33, of which intelligence alone is

Table V-29

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY
MEASURES WITH OCCUPATIONAL INFORMATION FOR VIII GRADE BOYS(N=151)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1 n_2
1.	INT	.474	.225	—	43.23**	1, 149
2.	INT, SES	.532	.283	.058	12.08**	1, 148
3.	INT, SES, E	.571	.327	.044	9.57**	1, 147
4.	INT, SES, E, Q_3	.586	.344	.017	3.78	1, 146

Step No. 3   Significant Predictors   INT, SES, E

Regression Co-efficients .113, .064, -.208

Constant 3.42

Table V-30

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY
MEASURES WITH OCCUPATIONAL INFORMATION FOR VIII GRADE GIRLS (N=142)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1 n_2
1.	SES	.335	.112	—	17.73**	1, 140
2.	SES, INT	.388	.150	.038	6.23*	1, 139
3.	SES, INT, A	.429	.184	.034	5.76*	1, 138
4.	SES, INT, A, G	.455	.207	.023	3.96*	1, 137
5.	SES, INT, A, G, PISA	.474	.225	.018	3.16	1, 136

Step No. 4   Significant Predictors   SES, INT, A, G

Regression Co-efficients .039, .081, .142, .143

Constant .915

* Significant at .05 level
** Significant at .01 level

contributing 22.5%. The predictors show that at this
grade, knowledge of a boys' level of intelligence and
socio-economic status may provide an useful index of his
level of occupational information. A further assessment
of personality on factor (E) would tend to significantly
improve this prediction.

For girls of VIII grade (Table V-30), S.E.S.,
intelligence, sociability (A), super ego strength (G)
have appeared as significant predictors, with a MR of .45,
SES being the first variable to enter the regression
equation, contributes 11.2% and intelligence further
increases the prediction by 3.8%. The personality traits
of sociability (A) and super-ego strength (G) appear to
be further increasing the prediction by 5.7%.

A comparative look at predictors of occupational
information at VIII grade, in both sexes show, that in
girls social class factors seem to have appeared more
important than intelligence whereas for boys, intelligence
seems to be more important than SES. For girls, out going,
friendly, warm, persistent and conscientious temperament
seem to be the favourable traits whereas for boys docility
and obedience appear to be more favourable.

For boys of X grade, (Table V-31) SES and intelligence
appear as the best set of predictors for occupational
information giving a MR .37 and R^2 .14. For girls, at this

Table V-31

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH OCCUPATIONAL INFORMATION FOR X GRADE BOYS (N=150)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1 n_2
1.	SES	.333	.111	—	18.52**	1, 148
2.	SES, INT	.367	.135	.024	3.91*	1, 147
3.	SES, INT, E	.395	.156	.021	3.79	1, 146

Step No. 2 Significant predictors SES, INT

Regression Co-efficients   .037, .069

Constant 5.65

Table V-32

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH OCCUPATIONAL INFORMATION FOR X GRADE GIRLS (N=136)

Step No.	Predictors variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1 n_2
1.	SES	.327	.107	—	16.09**	1, 134
2.	SES, LVA	.376	.141	.034	5.23*	1, 133
3.	SES, LVA, INT	.409	.167	.026	4.13*	1, 132
4.	SES, LVA, INT, E	.421	.177	.010	1.59	1, 131

Step No. 3 Significant Predictors SES, LVA, INT

Regression Co-efficients   .040, .048, .074

Constant 2.54

*Significant at .05 level

**Significant at .01 level

grade (Table V-32) SES, level of vocational aspiration and
intelligence have appeared as significant, contributing
16.7% to the variance in the criterion. Thus, irrespective
of sex, social class factors seem to be most significantly
contributing to occupational information at this level.
Moreover, the amount of variance contributed by SES factors
in both sexes, also appears to be the same. Intelligence
also appears as a significant predictor in both the groups.
For girls, knowledge of their level of vocational aspira-
tion is also adding to the prediction.

For boys of XII grade (Table V-33) intelligence
seems to be the most significant predictor and personality
traits of self control (Q_3) and surgency (F) are next in
order of importance. The MR for this set being .41, three
significant predictors account for 17% of the variance in
criterion, of which intelligence accounts for 7.8% and
personality traits Q_3 and F further account for 9% of the
variance. Thus variables at the 3rd step contribute to
the final regression equation.

For girls of XII grade, since none of the independent
variables except LVA (r = .146   p < .05, one tailed test)
correlate significantly with criterion occupational informa-
tion, multiple regression analysis for this set was not done.
Therefore, except level of vocational aspiration, none of
the other predictors appear to be contributing to the
knowledge of occupational information for XII grade girls.

Table V-33

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY
MEASURES WITH OCCUPATIONAL INFORMATION FOR XII GRADE BOYS (N=137)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1, n_2
1.	INT	.279	.078	—	11.38**	1, 135
2.	INT, Q_3	.378	.143	.065	10.15**	1, 134
3.	INT, Q_3, F	.410	.168	.025	3.96*	1, 133
4.	INT, Q_3, F, E	.435	.189	.021	3.04	1, 132

Step No. 3   Significant predictors   Regression Co-efficients   Constant

INT, Q_3, F   .086, .185, .109   4.33

*Significant at .05 level

**Significant at .01 level

A comparative look at the significant predictors
of occupational information at three grade levels shows
that each group has its own unique set of predictors. At
VIII and X grade level, intelligence and SES both appear
as significant predictors though they are varying in order
of importance with variation in grade and sex. At XII grade,
for boys, SES does not appear as a significant predictor.
Thus at VIII & X grade, one may look into a person's
intellectual ability as well as social class background
factors to know a student's extent of knowledge about
working world but at XII grade, it seems social class
factors may not be so important. The personality traits
which appear to be significantly contributing to the
prediction at three grade levels show that in girls, traits
such as sociability (A) super ego strength (G) may suggest
more job information; in boys, docility, obedience, self
control and self discipline may be indicative of more
occupational information.

Table V-34 presents the significant set of predictors
of goal selection for boys of VIII grade, which in order
of importance are, intelligence, intelligence (B) and
adventurousness (H). The total MR for these three predictors
is .52 accounting for 27% variance in the criterion. It is
further noted that intelligence (Gf), being the best
predictor, contributes 15.3% to the criterion and intelli-
gence Gc(B) further increases the prediction by 9.4%.

Table V-34

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH GOAL SELECTION FOR VIII GRADE BOYS (N=151)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1 n_2
1.	INT	.391	.153	-	26.85**	1, 149
2.	INT, B	.497	.247	.094	18.60**	1, 148
3.	INT, B, H	.520	.271	.024	5.10*	1, 147
4.	INT, B, H, Q_2	.538	.289	.018	3.75	1, 146

Step No. 3　Significant Predictors　　Regression Co-efficients　　Constant
　　　　　　　INT, B, H　　　　　　　.129, .542, .145　　　　　.548

Table V-35

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH GOAL SELECTION FOR VIII GRADE GIRLS (N= 142)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1 n_2
1.	INT	.327	.107	-	16.81**	1, 140
2.	INT, Q_4	.358	.128	.021	3.33	1, 139

Step No. 1　Significant Predictor　　Regression Co-efficient　　Constant
　　　　　　　INT　　　　　　　　　.094　　　　　　　　　　4.77

*Significant at .05 level

**Significant at .01 level

Thus, both types of intellectual abilities, figural and
verbal, contribute largest share of variance 24.7% in
the criterion. Thus, students of high intellectual
capacity, both figural and verbal, with an adventurous
temperament may be better able to relate their competencies
and capabilities realistically to requirements of the
world of work.

For girls at VIII grade (Table V-35), intelligence
appears as the sole predictor of goal selection, contri-
buting 10.7% to its variance. It seems that irrespective
of sex at VIII grade, intelligence is the most significant
predictor of goal selection, though in boys, adventurousness
also adds to the prediction.

At X grade level, for boys (Table V-36), participa-
tion in out of school activities and intelligence are
appearing as best set of predictors. For girls (Table V-37)
at this grade, the only significant predictor for goal
selection appears to be SES. The results tend to show
that at VIII grade, intellectual factors appear as better
predictors of goal selection and at X grade, external
variable of participation in extra-curricular activities
and socio-economic status appear as variables which would
better predict, competency in relating self to the world
of work.

At XII grade, for boys (Table V-38), intelligence
having the highest zero order correlation (r .328) is first

Table V-36

STEP WISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH GOAL SELECTION FOR X GRADE BOYS (N=150)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1, n_2
1.	PIOSA	.291	.085	—	13.72**	1, 148
2.	PIOSA, INT	.353	.125	.040	6.78*	1, 147
3.	PIOSA, INT, C	.378	.143	.018	3.05	1, 146

Step No. 2	Significant Predictors	Regression Co-efficients	Constant
	PIOSA, INT	.071, .070	2.78

Table V-37

STEP WISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH GOAL SELECTION FOR X GRADE GIRLS (N=136)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1, n_2
1.	SES	.271	.074	—	10.60**	1, 134
2.	SES, INT	.300	.090	.016	2.35	1, 133

Step No. 1	Significant Predictor	Regression Co-efficient	Constant
	SES	.059	4.94

*Significant at .05 level
**Significant at .01 level

to enter the equation. Addition of self control (Q_3) at
the next step does not appear to be significantly increasing
the prediction. Thus intelligence appears as the only
significant predictor contributing 10.8% to the variance
in the criterion.

For XII grade girls (Table V-39), intelligence again
is most significant predictor contributing 6.2% towards
the total variance of 12.4% being contributed by all the
significant predictors. The personality traits super-ego
strength (G) and self sufficiency (Q_2) are together signi-
ficantly adding 6.2% to the prediction. The three signi-
ficant predictors tend to show that girls of high intelle-
ctual ability with a conscientious, moralistic, sociable,
and dependent temperament can be expected to be better in
formulating a realistic vocational goal.

The different sets of predictors of goal selection,
at each grade level in boys and girls, bring forth some
predominant variables. At VIII and XII grade, intelligence
and some temperamental traits are better predictors of goal
selection, whereas at X grade, participation in school
activities and SES appear more important and none of
personality traits appear to be contributing to the
prediction. At XII grade, for boys, intelligence is the
only variable contributing significantly to the goal
selection, whereas in girls, intelligence combined with

Table V-38

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH GOAL SELECTION FOR XII GRADE BOYS (N=137)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1 n_2
1.	INT	.328	.108	—	16.35**	1, 135
2.	INT, Q_3	.365	.133	.025	3.90	1, 134

Step No. 1	Significant Predictor	Regression Co-efficient	Constant
	INT	.106	7.08

Table V-39

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH GOAL SELECTION FOR XII GRADE GIRLS (N=153)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1 n_2
1.	INT	.249	.062	—	9.99**	1, 151
2.	INT, G	.302	.091	.029	4.83*	1, 150
3.	INT, G, Q_2	.352	.124	.033	5.59*	1, 149
4.	INT, G, Q_2, E	.377	.142	.018	3.10	1, 148

Step No. 3	Significant Predictors	Regression Co-efficients	Constant
	INT, G, Q_2	.090, .146, -.152	7.18

*Significant at .05 level

**Significant at .01 level

personality traits super ego strength and self sufficiency
(G and Q_2) are better predictors.

Table V-40 presents significant set of predictors
for planning for boys at VIII grade, which in order of
importance are intelligence, SES, and intelligence (B).
The MR being .53 they are contributing 28.4% to the
variance in the criterion of which intelligence alone is
contributing 20.6% towards the variance and SES and intelli-
gence (B) further add 4.6% and 3.2% respectively. For
girls at VIII grade also (Table V-41), intelligence is the
best predictor, contributing 23.7% to the variance and SES
further adds 4%. The total MR for this set is .53. Thus,
at VIII grade level, irrespective of sex, identification
of intelligence and socio-economic status may provide an
useful index of the extent to which students have engaged
in planning how to reach their vocational goals.

At X grade, for boys (Table V-42), the significant
predictors are SES and intelligence, having a MR of .45,
SES contributes 17.2% and intelligence further adds to the
prediction by 2.8%. For girls also at this grade (Table V-43),
SES appears as the most significant predictor contributing
13.6% towards the variance in the criterion, and other
variables significantly increasing the prediction are
surgency (F), level of vocational aspiration and intelli-
gence. The total predictive value of this set is .51.

Table V-40

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH PLANNING FOR VIII GRADE BOYS (N=151)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1	n_2
1.	INT	.454	.206	—	38.66**	1,	149
2.	INT, SES	.502	.252	.046	9.20*	1,	148
3.	INT, SES, B	.533	.284	.032	6.53	1,	147
4.	INT, SES, B, E	.541	.293	.009	1.88	1,	146

Step No. 3   Significant Predictors   Regression Co-efficients   Constant
INT, SES, B   .150, .052, .424   -1.50

Table V-41

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH PLANNING FOR VIII GRADE GIRLS (N=142)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1	n_2
1.	INT	.487	.237	—	43.60**	1,	140
2.	INT, SES	.526	.277	.040	7.88**	1,	139
3.	INT, SES, Q_4	.537	.288	.011	2.11	1,	138

Step No. 2   Significant Predictors   Regression Co-efficients   Constant
INT, SES   .145, .047   -.006

*Significant at .05 level
**Significant at .01 level

Table V-42

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH PLANNING FOR X GRADE BOYS (N = 150)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1, n_2
1.	SES	.415	.172	-	30.71**	1, 148
2.	SES, INT	.448	.200	.028	5.19*	1, 147
3.	SES, INT, G	.466	.217	.017	3.15	1, 146

Step No. 2   Significant Predictors   Regression Co-efficients   Constant
   SES, INT   .067, .106   1.46

Table V-43

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH PLANNING FOR X GRADE GIRLS (N = 136)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1, n_2
1.	SES	.368	.136	-	20.92***	1, 134
2.	SES, F	.430	.185	.049	8.03**	1, 133
3.	SES, F, LVA	.476	.227	.042	7.12*	1, 132
4.	SES, F, LVA, INT	.511	.261	.034	6.07*	1, 131
5.	SES, F, LVA, INT, B	.527	.278	.017	3.36	1, 130

Step No. 4   Significant Predictors   Regression Co-efficients   Constant
   SES, F, LVA, INT   .054, .246, .064, .103   -3.84

*Significant at .05 level
**Significant at .01 level

As is evident, at VIII grade, in both sexes
intelligence appears as the most significant predictor
contributing more towards the variance, and SES appears
at the 2nd step but at X grade, in both sexes, SES appears
at the 1st step contributing maximum to the variance and
intelligence is appearing later. For X grade girls,
unlike the earlier sets VIII & X grade boys, the signi-
ficant predictors of planning also consist surgency (F)
and vocational aspirations.

At XII grade for boys (Table V-44), planning is
being best predicted by intelligence and ego strength (C)
with a MR of .44. Both the predictors contribute 19.3%
to the variance in the criterion. For girls, at this
grade (Table V-45) intelligence is again the best predictor
followed by adventurousness (H). Both give a MR of .34.
It is noted that in both sexes at XII grade, intelligence
is appearing as the most significant predictor but in boys
it is contributing more to the variance ($R^2 = .12$) than
in girls ($R^2 = .07$). Different personality traits
appearing in the two sets show that XII grade boys who tend
to exhibit emotional stability, calm and stable temperament
at the school leaving stage may be expected to have done
more thinking towards planning to reach future vocational
goal, suggesting that those who are emotionally unstable
may not be planful, whereas girls, who are active and
energetic, bold and out going may be the ones who could be
expected to have done greater planning.

Table V-44

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY
MEASURES WITH PLANNING FOR XII GRADE BOYS (N = 137)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1, n_2
1.	INT	.344	.118	—	18.08**	1, 135
2.	INT, C	.439	.193	.075	12.50**	1, 134
3.	INT, C, PIOSA	.453	.205	.012	2.03	1, 133

Step No. 2 Significant Predictors   Regression Co-efficients   Constant

INT, C   .154, .263   2.94

Table V-45

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY
MEASURES WITH PLANNING FOR XII GRADE GIRLS (N = 153)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1, n_2
1.	INT	.271	.074	—	12.00**	1, 151
2.	INT, H	.339	.115	.041	6.95**	1, 150
3.	INT, H, PIOSA	.369	.136	.021	3.62	1, 149

Step No. 2 Significant Predictors   Regression Co-efficients   Constant

INT, H   .134, .187   2.94

*Significant at .05 level

**Significant at .01 level

Table V-46 shows the best predictors of problem solving competency for boys at VIII grade, which in their order of importance are socio-economic status, adventurousness (H), senstivity (I) and intelligence. The combination of predictors at step 4 is retained for prediction of problem solving for this group. Thus students coming from high socio-economic background may be expected to be better equipped to solve their educational and vocational problems. Their adventurous, tough minded, and intelligent, temperament may also further help them in this respect.

For girls at VIII grade (Table V-47) the best predictors are, guiltproneness (O), followed by adventurousness (H) and SES having a MR of .39. Personality factors O and H contribute 12.3% towards the variance and SES is only marginally adding 2.5% to the R^2. Thus, major contribution to the variance is by personality factors.

At X grade level for boys (Table V-48), intelligence contributes 7.5% to variance, but for girls at this grade (Table V-49), SES has appeared as a better predictor of problem solving than intelligence, as SES is appearing at the first step contributing 9.2% to the variance and intelligence further adds 4.5%.

For XIII grade boys (Table V-50), self control (Q_3), appears as the best predictor followed by intelligence. The MR is .30 and both the predictors contribute 8.7% to

Table V-46

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH PROBLEM SOLVING FOR VIII GRADE BOYS (N=151)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1	n_2
1.	SES	.441	.195	—	36.04**	1,	149
2.	SES, H	.534	.284	.089	18.54**	1,	148
3.	SES, H, I	.566	.321	.037	8.04*	1,	147
4.	SES, H, I, INT	.591	.350	.029	6.44*	1,	146
5.	SES, H, I, INT, PISA	.602	.363	.013	3.25	1,	145

Step No. 4 Significant Predictors SES, H, I, INT

Regression Co-efficients .053, .207, -.145, .072   Constant .183

Table V-47

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH PROBLEM SOLVING FOR VIII GRADE GIRLS (N=142)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1	n_2
1.	O	.271	.074	—	11.14**	1,	140
2.	O, H	.350	.123	.049	7.78**	1,	139
3.	O, H, SES	.385	.148	.025	4.03*	1,	138
4.	O, H, SES, INT	.397	.158	.010	1.64	1,	137

Step No. 3 Significant Predictors O, H, SES

Regression Co-efficients .220, .142, .026   Constant .745

* Significant at .05 level
** Significant at .01 level

Table V-48

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH PROBLEM SOLVING FOR X GRADE BOYS (N = 150)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1	n_2
1.	INT	.273	.075	-	11.96**	1,	148
2.	INT, SES	.306	.093	.018	2.90	1,	147

Step No. 1 Significant Predictor
INT

Regression Co-efficient .096

Constant 3.73

Table V-49

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY MEASURES WITH PROBLEM SOLVING FOR X GRADE GIRLS (N=136)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1	n_2
1.	SES	.303	.092	-	13.54**	1,	134
2.	SES, INT	.370	.137	.045	6.92**	1,	133
3.	SES, INT, F	.392	.154	.017	2.66	1,	132

Step No. 2 Significant Predictors
SES, INT

Regression Co-efficients .045, .088

Constant 1.58

**Significant at .01 level

Table V-50

STEPWISE MULTIPLE REGRESSION ANALYSIS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY
MEASURES WITH PROBLEM SOLVING FOR XII GRADE BOYS (N=137)

Step No.	Predictor variables	MR	R^2	Increment in R^2	F ratio of Increment in R^2	Df n_1 n_2
1.	Q_3	.236	.056	—	7.99**	1, 135
2.	Q_3, INT	.296	.087	.031	4.41*	1, 134
3.	Q_3, INT, E	.315	.099	.012	1.76	1, 133

Step No. 2   Significant Predictors   Regression Co-efficients   Constant

Q_3, INT   .055, .209   2.36

*Significant at .05 level

**Significant at .01 level

the variance in the criterion. Self control (Q_3) appearing
as a significant predictor tends to support the view that
"Q_3+ individuals are problem raising and solution offering"
(Cattell 1961), their steadiness and emotional control
perhaps helps them to deal with their problems better at
this grade.

For XII grade girls, no variable from the total set
of 19 predictors had a significant correlation with problem
solving. Therefore, for this criterion, none of the
variables could be identified as significant predictors,
and prediction on this criterion from the present set of
variables (within the sample) remains undetermined.

The significant set of predictors of problem solving,
across grade levels in boys and girls groups (except for
XII grade girls) indicate, that different combinations of
predictors appear at each grade level, and in each sex
group. Some predictors such as intelligence and social
class are more commonly appearing though their order of
importance is again varying. At VIII grade, socio-economic
status and temperamental traits of adventurousness and tough
mindedness, are appearing to be significantly predicting
problem solving. Guiltproneness has also appeared as a
significant predictor for girls at this grade. At X grade
personality does not appear to be contributing a significant
influence, and at XII grade, for boys, personality (Q_3)

and intelligence account for maximum variance and thus contribute significantly towards competency to solve various educational and vocational problems.

An Overview

Tables V-51 to V-56 present a comparative picture of the extent to which predictor variables in their best combination account for variance in career choice attitudes and career choice competencies dimensions of career maturity at each grade level and in each sex group. In some sets it is found that component of prediction tends to be lower on some indices than on others.

For VIII grade boys group (Table V-51), first criterion career choice attitudes has the highest MR of .64 which shows that this criterion is being best predicted by the predictor variables. The criterion with next highest MR of .59 is problem solving. The different sets of predictors for six criterion measures show that on five career maturity measures, CCA, SA, OI, GS & PL, intelligence appears as the best predictor contributing largest share of the variance and only on problem solving, SES appears as the most important predictor contributing most towards the variance. SES is the next most commonly appearing variable in each combination of predictors for every criterion except in the best set for goal selection. Personality trait

Table V-51

REGRESSION EQUATIONS USING THE COMBINATION OF SES, INT, LVA, PISA, PIOSA AND
PERSONALITY FOR MEASURES OF CAREER MATURITY OF VIII GRADE BOYS (N=151)

Sr. No.	Criterion	Predictors	Variance contribution in percent	Total variance	Multiple Correlation
1.	CCA	INT(x_2), I(x_3), LVA(x_4), H(x_5), SES(x_6)	22.7, 7.6, 4.6, 4.0, 1.7	40.6	.637
2.	SA	INT(x_2), B(x_3), E(x_4), SES(x_5), I(x_6)	12.6, 4.5, 4.6, 3.0, 2.0	26.7	.516
3.	OI	INT(x_2), SES(x_3), E(x_4)	22.5, 5.8, 4.4	32.7	.571
4.	GS	INT(x_2), B(x_3), H(x_4)	15.3, 9.4, 2.4	27.1	.520
5.	PL	INT(x_2), SES(x_3), B(x_4)	20.6, 4.6, 3.2	28.4	.533
6.	PS	SES(x_2), H(x_3), I(x_4), INT(x_5)	19.5, 8.9, 3.7, 2.9	35.0	.591

The Regression equations read as*

1. $X'_1 = 14.03 + .238x_2 + -.411x_3 + .112x_4 + .375x_5 + .075x_6$
2. $X'_1 = 3.90 + .061x_2 + .398x_3 + -.208x_4 + .041x_5 + -.133x_6$
3. $X'_1 = 3.42 + .113x_2 + .064x_3 + -.208x_4$
4. $X'_1 = .548 + .129x_2 + .542x_3 + .145x_4$
5. $X'_1 = -1.50 + .150x_2 + .052x_3 + .424x_4$
6. $X'_1 = .183 + .053x_2 + .207x_3 + -.145x_4 + .072x_5$

* x_2 ----- x_6 may be read as given in column 3

adventurousness (H), appears to be contributing signi-
ficantly to career choice attitudes, goal selection and
problem solving competencies. Docility and submissiveness
are some of other traits which seem to be positively
affecting self appraisal and occupational information.
A combination of intelligent, adventurous, unsentimental
personality coming from a high socio-economic background
could perhaps be expected to have more mature attitudes
towards choice making tasks and would be better at solving
various problems related to career decision making. Those
who are intelligent and adventurous would also be better
able to relate self to the world of work. Similarly,
intelligent students coming from high SES background with
a docile temperament could be expected to have more
occupational information. Most of the career maturity
measures are being influenced by both extrinsic (social
class) and intrinsic (Psychological) factors except goal
selection which is being predicted by only the intrinsic
components.

For VIII grade girls also (Table V-52), career choice
attitudes appear as the criterion having the highest
MR (.62) and planning as the next highest MR (.53).
Though each criterion is characterized by its own set of
predictors, the variance in self appraisal and occupational
information is being attributed to, most by external factors
of social class. For career choice attitudes also, the best

Table V-52

REGRESSION EQUATIONS USING THE COMBINATION OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY FOR MEASURES OF CAREER MATURITY OF VIII GRADE GIRLS (N=142)

Sr. No.	Criterion	Predictors	Variance contribution in percent	Total Variance	Multiple Correlation
1.	CCA	PIOSA(x_2), $Q_4(x_3)$, INT(x_4)	22.6, 10.4, 5.8	38.8	.623
2.	SA	SES(x_2)	7.4	7.4	.272
3.	OI	SES(x_2), INT(x_3), A(x_4), G(x_5)	11.2, 3.8, 3.4, 2.3	20.7	.455
4.	GS	INT(x_2)	10.7	10.7	.327
5.	PL	INT(x_2), SES(x_3)	23.7, 4.0	27.7	.526
6.	PS	O(x_2), H(x_3), SES(x_4)	7.4, 4.9, 2.5	14.8	.385

Regression equation read as*

$$1. \quad X'_1 = 15.05 + .248x_2 + -.620x_3 + .222x_4$$

$$2. \quad X'_1 = 4.36 + .049x_2$$

$$3. \quad X'_1 = .915 + .039x_2 + .081x_3 + .142x_4 + .143x_5$$

$$4. \quad X'_1 = 4.77 + .094x_2$$

$$5. \quad X'_1 = -.006 + .145x_2 + .047x_3$$

$$6. \quad X'_1 = .745 + .220x_2 + .142x_3 + .026x_4$$

* x_2 ------- x_5 may be read as given in column 3

predictor is the external variable of participation in out-of-school activities, but for goal selection and planning, intelligence is contributing most to the variance. Problem solving has personality traits appearing more important as they contribute larger share of variance than other factors. The personality factors appearing as significant predictors in the girls at this grade are ergic tension (Q_4), super ego strength (G), and adventurousness (H) which show relaxed, tranquil, calm, conscientious, social and outgoing girls to be more career mature at this grade.

At X grade for boys (Table V-53), the criterion with the highest MR (.52) is again career choice attitudes and with next highest MR (.45) is planning. The most important predictor for both these criterion and occupational information is socio-economic status which is contributing the largest share of variance. Thus the hypothesized relationship between career maturity and socio-economic status seems to find support in this group. Participation in extracurricular activities also appears to be significantly contributing towards maturity in choice attitudes and self appraisal which suggests that adolescent exploration through participation in extracurricular activities at school and outside may facilitate career maturity at this stage. It is noted that none of the personality factors appear as significant predictors in the best set of predictors for OI,

Table V-53

REGRESSION EQUATIONS USING THE COMBINATION OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY FOR MEASURES OF CAREER MATURITY OF X GRADE BOYS (N=150)

Sr. No.	Criterion	Predictors	Variance Contribution in percent	Total Variance	Multiple Correlation
1.	CCA	$SES(x_2)$, $C(x_3)$, $PIOSA(x_4)$, $INT(x_5)$	13.3, 7.0, 4.3, 2.2	26.8	.518
2.	SA	$G(x_2)$, $PISA(x_3)$	4.7, 3.7	8.4	.289
3.	OI	$SES(x_2)$, $INT(x_3)$	11.1, 2.4	13.5	.367
4.	GS	$PIOSA(x_2)$, $INT(x_3)$	8.5, 4.0	12.5	.353
5.	PL	$SES(x_2)$, $INT(x_3)$	17.2, 2.8	20.0	.448
6.	PS	$INT(x_2)$	7.5	7.5	.273

Regression equations read as*

1. $X'_1 = 10.32 + .063x_2 + .607x_3 + .194x_4 + .184x_5$
2. $X'_1 = 2.97 + .174x_2 + .065x_3$
3. $X'_1 = 5.65 + .037x_2 + .069x_3$
4. $X'_1 = 2.78 + .071x_2 + .070x_3$
5. $X'_1 = 1.46 + .067x_2 + .106x_3$
6. $X'_1 = 3.73 + .096x_2$

* x_2——— x_5 may be read as given in column 3
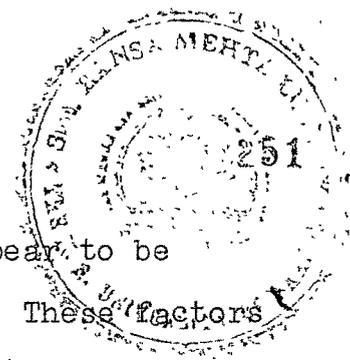
GS, PL & PS but they (personality factors) appear to be
contributing to the prediction of CCA and SA. These factors
are ego strength (C) and super-ego strength (G).

For X grade girls also (Table V-54), career choice
attitudes have the highest MR (.68) and, out of the 46%
variance contributed by the best set of predictors, more
than half, 30.8% is being contributed to, by intelligence.
On the other criterion measures (choice competencies),
socio-economic status appears as the best predictor contri-
buting maximum towards variance as SES in all career choice
competency measures has appeared at the first step.
Personality traits, adventurousness (H) and surgency (F)
have appeared as significant predictors of career maturity
measures in this group. Level of vocational aspiration
also appears to be contributing significantly towards
career maturity, more specifically to occupational informa-
tion and planning.

For XII grade boys (Table V-55), the best predicted
criterion appears to be career choice attitudes again which
is having the highest MR (.53) amongst all the criterion
measures, showing greater relationship of predictor
variables with this criterion than with any other criterion.
The different sets of predictors show that order of
importance of socio-economic status and intelligence has
again changed. Career choice attitudes are being affected
more by social class factors at this level as SES is making

Table V-54

REGRESSION EQUATIONS USING THE COMBINATIONS OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY FOR MEASURES OF CAREER MATURITY OF X GRADE GIRLS(N=136)

Sr. No.	Criterion	Predictors	Variance Contribution in percent	Total Variance	Multiple Correlation
1.	CCA	INT(x_2), SES(x_3), H(x_4), B(x_5)	30.8, 5.8, 6.5, 2.9	46.0	.678
2.	SA	SES(x_2), H(x_3)	5.3, 3.8	9.1	.302
3.	OI	SES(x_2), LVA(x_3), INT(x_4)	10.7, 3.4, 2.6	16.7	.409
4.	GS	SES(x_2)	7.4	7.4	.271
5.	PL	SES(x_2), F(x_3), LVA(x_4), INT(x_5)	13.6, 4.9, 4.2, 3.4	26.1	.511
6.	PS	SES(x_2), INT(x_3)	9.2, 4.5	13.7	.370

Regression Equations read as*

1. $X'_1 = 9.08 + .451x_2 + .159x_3 + .468x_4 + .806x_5$

2. $X'_1 = 3.74 + .048x_2 + .134x_3$

3. $X'_1 = 2.54 + .040x_2 + .048x_3 + .074x_4$

4. $X'_1 = 4.94 + .059x_2$

5. $X'_1 = -3.84 + .054x_2 + .246x_3 + .064x_4 + .103x_5$

6. $X'_1 = 1.58 + .045x_2 + .088x_3$

* x_2 ------- x_5 may be read as given in column 3

Table V-55

REGRESSION EQUATIONS USING THE COMBINATION OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY FOR MEASURES OF CAREER MATURITY OF XII GRADE BOYS(N=137)

Sr. No.	Criterion	Predictors	Variance Contribution in percent	Total Variance	Multiple Correlation
1.	CCA	$SES(x_2)$, $I(x_3)$, $H(x_4)$, $INT(x_5)$	19.1, 4.4, 2.2, 2.3	28.0	.529
2.	SA	$A(x_2)$, $INT(x_3)$, $Q_3(x_4)$	4.8, 3.5, 3.7	12.0	.347
3.	OI	$INT(x_2)$, $Q_3(x_3)$, $F(x_4)$	7.8, 6.5, 2.5	16.8	.410
4.	GS	$INT(x_2)$	10.8	10.8	.328
5.	PL	$INT(x_2)$, $C(x_3)$	11.8, 7.5	19.3	.439
6.	PS	$Q_3(x_2)$, $INT(x_3)$	5.6, 3.1	8.7	.296

Regression Equations read as*

1. $X'_1 = 22.42 + .169x_2 + -.430x_3 + .314x_4 + .175x_5$

2. $X'_1 = 4.02 + .112x_2 + .075x_3 + .168x_4$

3. $X'_1 = 4.33 + .086x_2 + .185x_3 + .109x_4$

4. $X'_1 = 7.08 + .106x_2$

5. $X'_1 = 2.94 + .154x_2 + .263x_3$

6. $X'_1 = 2.36 + .055x_2 + .209x_3$

* x_2 ———— x_5 may be read as given in column 3

largest contribution 19.1% towards variance in choice
attitudes. Choice competencies, more specifically,
occupational information, goal selection and planning, are
being better predicted by intelligence and personality
traits. On self appraisal and problem solving personality
has a greater impact as the traits sociability (A) and
self control (Q_3) appear as most important predictors.
Thus, career competencies have more of intellectual and
temperamental flavour in this group than the choice
attitudes. This tends to show that intrinsic factors
appear to be contributing more and, hence predict better,
the choice competencies and extrinsic factors are contri-
buting more to choice attitudes. The predominant personality
traits for choice attitudes are adventurousness (H) and
insensitivity and for choice competencies, self control
(Q_3), surgency (F) and ego strength (C).

At XII grade, for girls again (Table V-56), choice
attitudes have the highest MR (.57). The different sets of
predictors appearing on various criterion measures in this
group show that level of vocational aspiration is contri-
buting most toward maturity in choice attitudes. Intelli-
gence, adventurousness (H) socio-economic status and self
control (Q_2) are some of the other factors which are also
facilitating and influencing choice attitudes. Amongst
choice competencies for XII grade girls, only on three
criterion measures i.e. self appraisal, goal selection and

Table V-56

REGRESSION EQUATIONS USING THE COMBINATION OF SES, INT, LVA, PISA, PIOSA AND PERSONALITY FOR MEASURES OF CAREER MATURITY OF XII GRADE GIRLS(N=153)

Sr. No.	Criterion	Predictors	Variance Contribution in percent	Total Variance	Multiple Correlation
1.	CCA	$LVA(x_2)$, $INT(x_3)$, $H(x_4)$, $SES(x_5)$, $Q_2(x_6)$	17.8, 6.9, 2.8, 3.0, 1.8	32.8	.568
2.	SA	$Q_3(x_2)$, $Q_2(x_3)$	3.0, 2.5	5.5	.234
3.	OI	–	–	–	–
4.	GS	$INT(x_2)$, $G(x_3)$, $Q_2(x_4)$	6.2, 2.9, 3.3	12.4	.352
5.	PL	$INT(x_2)$, $H(x_3)$	7.4, 4.1	11.5	.339
6.	PS	–	–	–	–

Regression Equations read as*

$$X'_1 = 8.75 + .190x_2 + .221x_3 + .358x_4 + .106x_5 + .375x_6$$

$$X'_1 = 11.49 + -.144x_2 + -.134x_3$$

$$X'_1 = 7.18 + .090x_2 + .146x_3 + -.152x_4$$

$$X'_1 = 2.94 + .134x_2 + .187x_3$$

* x_2 ------- x_6 may be read as given in column 3

NOTE:- OI had only one significant correlation with LVA and PS had no significant correlation with any of the predictor variables hence a step wise multiple regression analysis for these two criterion was not done.

planning significant relationships have emerged with more than one predictor variable. Occupational Information only had one marginally significant correlation with one of the predictor variables (LVA) and problem solving did not yield any significant correlations with any of the predictor variables. On other choice competencies, it is seen that predictors have more of psychological components. Intelligence appears as the most significant predictor on goal selection and planning, whereas self-appraisal is mainly being predicted by personality traits, though the prediction tends to be low. It may be noted that self control (Q_3) and self sufficiency (Q_2) appear with a negative weight which show the negative contribution of these traits toward better self appraisal and goal selection competency in girls at this grade. In boys at XII grade, higher self control contributes to higher career maturity, whereas in girls reverse is the case.

It is further noted that choice attitudes are being positively contributed by self sufficiency (Q_2) indicating individualistic, reflective, self sufficient person more mature in choice attitude whereas on self appraisal and goal selection reverse is true. Another trait which has again appeared as a significant predictor in this group is adventurousness (H) contributing positively to maturity in choice attitudes and better planning.

The MR on career choice attitudes from VIII to
XII grades ranges from .52 to .68 which seems to support
the findings reported by Crites (1978) on three multiple
regression analyses in which the attitude scale correlated
(r's in .50 to .60's) with composits of psychological and
out-come variables which reveals the validity of the
attitude scale as a significant component in the construct
of career maturity.

All the six Table V-51 to V-56 also show the
regression equations which would best predict (within the
present sampling and variables) the students' scores on the
career maturity measures for the particular sex and grade
group indicated therein.

A comparison of the multiple correlations across
grades tends to show that predictive values of the indepen-
dent variables tend to decrease from VIII to XII grade with
a few exceptions such as in case of girls, the MR tends
to be same from VIII to X grade on various career maturity
measures, and on career choice attitudes the MR has
increased from .62 to .68. But from X to XII grade,
prediction tends to be lower showing decreasing influence
of these predictor variables at XII grade, especially on
self appraisal and occupational information, the prediction
is very low and on problem solving, no prediction has been
possible. In boys, the MR's decrease from VIII to X grade

but from X to XII the predictive values remain almost
the same. Overall, as the product moment correlations had
suggested, the predictors show their lesser contribution
at XII grade than at VIII & X grade.

The lesser influence of predictor variables at XII
grade could perhaps be attributed to a complex variety of
other factors playing a significant role at the school
leaving stage, especially in the context of Indian students.
XII grade, being crucial from the point of view of
educational and vocational decision making, the students
are faced with the manifold realities of the working world
which have not been anticipated. Some of which may be lack
of educational and training facilities, large scale un-
employment, pressures of unrealistic vocational aspirations
and lack of guidance to take the right course of action,
resulting in an element of uncertainity, insecurity,
confusion and lack of confidence in the students. The
girls, especially, are more in conflict as they face the
dual standards of preparing for the traditional role of a
good home maker or prepare for a career.

Intelligence which is appearing as a significant
predictor in almost all the combinations for career maturity
measures also tends to show its greater contribution at
lower grade levels than at higher grade levels. Lesser
contribution of intelligence to career maturity at XII grade
could also perhaps be assigned to the reasons inherent in

the very mature of structure of abilities which are
becoming more specific as the individuals grow older.
Vocational behaviour is also becoming more specific and
goal directed from childhood to adulthood (Super 1957).
This, perhaps, results in student groups at higher grades
becoming more homogeneous with regard to these behaviours
and in giving lower correlations at higher grade levels
in comparision to lower grades.

The prediction that vocationally mature behaviour
becomes more differentiated overtime is analogus to
Garrett's (1946) "differentiation" hypothesis concerning
the growth of intelligence, which he maintained, "changes
in its organization (factorial structure) as age increases
from a fairly unified and general ability to loosely
organized group of abilities or factors". The rationale
for this expected developmental trend in vocational matura-
tion is that the uniform effects of childhood experiences
give way to the varied and complex influences of adolescence,
the consequence being the increasing specificity of career
decision making processes (Crites 1974a). As Herr (1974)
notes Super is concerned with increasing complex tasks of
vocational development, and he has formulated his statement
of stages within which there are factors, internal as well
as external, which influence the choices made. These
factors continue to filter down and narrow the array of
options the individual considers. There is an emphasis

then, on vocational convergence and greater specificity of behaviour.

Some other factors which were not taken up for study such as scholastic achievement, school climate, peer group influences, role models, parental attitudes may be other important sources of variance in the career maturity measures at XII grade.

Thus a complex variety of other factors, situational, psychological and environmental interacting together tend to suppress the impact of single variables keeping them at a low ebb and makes the search for isolating factors a difficult one.

However, results have brought forth some predominant variables which would throw light on the role played by them in facilitating career development of students at the adolescent stage.

The overall findings on regression analysis seem to suggest, intelligence and socio-economic status appearing as most significant predictors for assessing the career maturity of students at various grade levels, though their order of importance varies with grade and sex. This seems to affirm the findings of many researchers (Lawrence and Brown 1976, Scheri 1972, Wilson 1979) who have found IQ linearly related to vocational maturity. The appearance of SES also predicting various aspects of career decision

making, seems to suggest that an individual's career
maturity may be a reflection of his experiences in the
social class and family culture and the pressures his
surroundings and traditions have upon his vocational
thinking and decision making (Blocher, 1973).

Appearance of participation in out-of-school
activities for predicting choice attitudes, self appraisal
and goal selection competencies at VIII & X grades in boys
brings into focus the utility of providing such experiences
during adolescent exploration. In play and work activities
students get an opportunity to try out their abilities
and to evaluate them against their accomplishments and the
reactions of others. The results also tend to show that
participation in various extracurricular activities, at
home with parents and siblings and at school, with teachers
and peers, is aiding X grade boys in knowing themselves
better and in selecting a suitable vocational goal. It is
also contributing towards their greater maturity in choice
attitudes.

The findings tend to support CPS data which show
that boys who are activ e in school affairs and who are
actively pursuing hobbies, pastimes, and other activities
out of school fare better in the post-high school years
than those who do not. The reason may be that through such
activities they learn important things about themselves and

the world, which if not learned then, must be learned later through hard experience (Jordaan 1974).

The personality traits which have frequently appeared as significant predictors tend to show that such personality traits which would contribute to the general adjustment of the individual are also appearing as significant predictors, though there is a variation between boys and girls as each group has its own set of traits. Girls who are relaxed, tranquil, unfrustrated, but not totally withdrawn and with a tinge of adventurousness, out going and friendly temperament may be more mature on various aspects of career decision making.

In girls, level of vocational aspiration also appears to be predictive of higher career maturity especially for choice attitudes, occupational information and planning. Girls in our society do not generally set high level occupational goals as mainly marriage is the ultimate aim but those girls who have set higher aspirations for themselves perhaps could be expected to be more career oriented and to be having more knowledge of the world of work, and to a certain extent may have made some plan for future career.

In boys, emotional control and stability, responsibility, sense of duty and concern for moral standards and social rules, unsentimental and practical temperament

appear as traits contributing to career maturity. Docility
and self control are some of the other characteristics
which could be important for facilitating their career
development at adolescent stage.

Self control contributing positively to various
measures of career maturity at XII grade for boys, tends
to show that boys who are self disciplined, law abiding,
with emotional stability and self regarding sentiment at
this stage may be expected to be more career mature. Self
control (self regarding sentiment) appearing as a signi-
ficant predictor of career maturity in this group is
suggestive that self concept may be a significant predictor
of career maturity though it needs to be further studied
for conclusive evidence.

Adventurousness and surgency are some of other
traits which are contributing positively to career maturity
measures at various grade levels in both boys and girls.

The findings show that such personality traits
which would contribute to general maturity in the individual
may also contribute positively to career maturity measures
which suggests that individuals perhaps experience vocational
maturity in their progression towards fuller physical and
psychological development (Coffey 1973). This seems to
support the findings of Bergwall (1975) who found defensive-
ness, general maladjustment, and personality integration

being significant predictors of career maturity in the

final regression model in this study. Batlett (1969)

also found more career mature to be "more assertive,

persistent, goal oriented, forceful and independent."

Heilburn (1960), Hollender & Schalon (1965) and McNamara

(1975) have found more career mature to be better adjusted.

The findings largely show that multiple factors

influence career decision making process but the contri-

bution of these factors varies with sex and grade in

school. However, intelligence and socio-economic status

are contributing more towards variance in career maturity

measures than the other factors i.e. level of aspiration,

personality traits and participation in activities. As

postulated by Super & Overstreet (1960) we may agree

> "that vocational behaviour is the result of a
> variety of determinants.
> Some determinants such as intelligence or socio-
> economic status are more important than other
> determinents.
> Determinants interact in affecting vocational
> behaviour"

Findings, in general, tend to suggest that students

of high intelligence, coming from high socio-economic

background with sociable, outgoing, emotionally stable

and adventurous temperament, display greater maturity of

career attitudes and competencies during adolescence.

These findings somewhat fall in line with the ten year

follow up of (Super, Kowalski and Gotkin, 1967) CPS subjects,

which give the picture of the kind of high school senior
who is most likely to have achieved success, satisfaction
and a place for himself in the world of work by age twenty
five. Such an individual tends to come from a home
which is higher rather than lower on the socio-economic
scale. He is active in school activities, has hobbies
and past times that he pursues out of school and has goals
which are in keeping with his interests and intellectual
ability. He is informed about the occupation which he
thinks he might follow. In short, "he is an achiever, a
doer, he is active and involved in school and also out of
school and is not only engaging in his environment but
also exploring it" (Super et al 1967).

The varying relationship of the predictor variables
across three grades and sex groups seems to suggest that
factors which have been viewed as facilitators or
depressors of career decision making process may have
different influences on different grade levels and in
different sex groups. It indicates that practicing
counsellors may need to revise their present career
development practices in terms of the particular groups
they are dealing with.