PREDICTIVE EFFICIENCY OF INTELLECTUAL
AND PERSONALITY VARIABLES FOR VOCATIONAL MATURITY
CHAPTER VI

PREDICTIVE EFFICIENCY OF INTELLECTUAL AND PERSONALITY VARIABLES FOR VOCATIONAL MATUREITY

In order to examine the predictive efficiency of significant intellectual (intelligence and creativity) and personality correlates - (as identified through Pearson's Product Moment Correlations and Factor Analyses); and to see whether the prediction of vocational maturity (career choice attitudes and career choice competencies) on the basis of the conjoint effect of intellectual and personality variables is higher than their separate predictions, as also to determine the combinations of predictor variables which best explain the variance in vocational maturity of students, the techniques of multiple correlations and step-up regression equations involving independent variables of intelligence, creativity and personality were applied.

The following hypotheses were tested with the help of regression analysis:

V (i) Intellectual variables are significant predictors of vocational maturity.

V(ii) Personality variables are significant predictors of vocational maturity.

V(iii) Intellectual and personality variables conjointly contribute better towards prediction of vocational maturity than their separate predictions.
"Multiple regression analysis is a method of analyzing the collective and separate contribution of two or more independent variables 'X' to the variation of a dependent variable 'Y' (Kerlinger and 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 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, figural creativity totals, verbal creativity totals, and eight personality factors (as were found to be significantly correlated with vocational maturity) viz. $A^+$, $B^+$, $C^+$, $E^-$, $G^+$, $H^+$, $O^+$ and $Q_3^+$, were taken as one set of predictor variables and two measures of vocational maturity namely - career choice competencies totals and career choice attitudes as criterion variables.

Further, to test the significance of difference between the values of 'R's from one specific combination of independent variables to the subsequent combination of variables explaining the stepping of an additional variable to the previous set, F-ratios were calculated.
Discussions of results in this chapter has been done under two sections. Whereas the first part deals with the predictability of intellectual (intelligence and creativity) and personality correlates of vocational maturity separately, the second part discusses the conjoint effect of intellectual and personality variables as potential predictors of vocational maturity.

Three models of step-up regression equations have been reported for each of the two dependent variables i.e. career choice competencies and career choice attitudes. The various models have been explained as follows:

**MODEL-I:** \((\text{INT.} + F_{\text{CY.T}} + V_{\text{CY,T}})\) allowed for finding out the significance of adding measures of intelligence, figural and verbal creativity totals (intellectual variables) in predicting the criterion variance on (a) career choice competencies totals and (b) career choice attitudes.

**MODEL-II:** \((\text{Pers. A}^+ + B^+ + C^+ + E^- + G^+ + H^+ + O^+ + Q_3^+)\) was selected to study the effect of significant personality variables on the criterion variables (a) career choice competencies totals and (b) career choice attitudes.
MODEL-III: \[(\text{INT.} + F_{CY,T} + V_{CY,T} + A^+ + B^+ + C^+ + E^+ + G^+ + H^+ + O^+ + Q^+_{3})\] was designed to study the conjoint effect of both intellectual and personality variables on the criterion variables (a) career choice competencies totals and (b) career choice attitudes. This model thus was a combination of Model-I and Model-II.

MODEL-I(a): Vocational maturity (career choice competencies) as predicted by intelligence, figural creativity totals and verbal creativity totals.

\[R^2_{\text{CCC}}: (\text{INT.} + F_{CY,T} + V_{CY,T})\] gives the proportion of variance of the criterion measure of career choice competencies (CCC) = .205 attributable to the conjoint effect of the intellectual variables of \(\text{INT.}, F_{CY,T}\) and \(V_{CY,T}\). The value of \(R^2 = .205\) shows that 20.50% of whatever makes students differ in their career choice competencies is attributed to two of the three independent variables of \(\text{INT.}, F_{CY,T}\) and \(V_{CY,T}\).

\[R^2_{\text{CCC}} = .204 + .000 (.204 - .204) + .001 (.205 - .204) = .205.\]

This model implies that 20.40% of the variance of the criterion measure of career
choice competencies is attributable to intelligence (INT.),
zero percent to the figural creativity totals (F_{CY.T}), and
0.10% to verbal creativity totals (V_{CY.T}). The remaining
79.50% of the variance of career choice competencies is
attributable to factors other than those included in the
present study. The value of multiple correlation \( R = 0.453 \)
is higher than the individual correlations between the inde­
pendent and dependent variables which are \( r_{CCC', INT.} = 0.452; \)
\( r_{CCC, V_{CY.T}} = 0.170, r_{CCC, F_{CY.T}} = 0.107. \)

F-test shows that for the criterion measure of career
choice competencies, addition of the variable of figural
creativity totals to the predictions of CCC made by intelli­
gence is insignificant (\( F = 0.00 \)), vide Table-21. Also that
addition of the variable of verbal creativity totals to the
predictors of CCC made by intelligence and \( F_{CY.T} \) is again
insignificant (\( F = 0.87 \)) as shown in Table-21.

From these results it may be inferred that 20.40% of
the variance of the criterion measure, \(- CCC\) is not attri­
butable to the addition of figural creativity totals and
verbal creativity totals to the intelligence. Thus intelli­
genese may be considered as a sole potential predictor of
CCC since \( F_{CY.T} \) and \( V_{CY.T} \) have not emerged as significant
predictors of vocational maturity.
MODEL - I(b) : Vocational Maturity (career choice attitudes) as predicted by intelligence, figural creativity totals and verbal creativity totals.

$R^2_{CCA} : (INT. + F_{CY.T} + V_{CY.T})$ gives the proportion of variance of the criterion measure of career choice attitudes (.114) attributable to the conjoint effect of intellectual variables of intelligence (INT.); figural creativity totals ($F_{CY.T}$) and verbal creativity totals ($V_{CY.T}$). The value of $R^2 = .114$ shows that 11.40% of whatever makes students differ in their career choice attitudes is attributed to all the three independent variables of INT; $F_{CY.T}$ and $V_{CY.T}$.


The above model implies that 10.70% of the variance of the criterion measure of career choice attitudes is attributable to intelligence (INT.); 0.10% of the variance to figural creativity totals ($F_{CY.T}$) and 0.60% to verbal creativity totals ($V_{CY.T}$). The remaining 88.60% of the variance of career choice attitudes is attributable to factors other than those included in the present study. The value of multiple correlation $R = .338$ is higher than the individual correlations between the independent variables taken singularly that is intelligence, $F_{CY.T}$ and $V_{CY.T}$ on the outside and the dependent variable of CCA on the other, their 'r' values being -
F-test shows that for the criterion measure of career choice attitudes, addition of the variable of figural creativity totals to the predictions of CCA made by intelligence is insignificant (F = .078) vide table-22, whereas addition of the variable of verbal creativity totals to the predictions of career choice attitudes (CCA) made by intelligence and $F_{CY.T}$ is significant at .05 level (F = 4.72) vide Table-22.

These results lead to reason that out of the three independent intellectual variables viz. intelligence, figural creativity totals and verbal creativity totals, only intelligence and verbal creativity totals amount to 11.4% of the variance and thus may be considered significant predictors of vocational maturity. Figural creativity totals has not emerged as a potential predictor of vocational maturity.

By comparing models Ia and Ib, it has been observed (a) that contribution of intellectual variables ($INT., F_{CY.T}, V_{CY.T}$) is higher for predicting career choice competencies totals ($R^2 = 20.50\%$) than for predicting career choice attitudes ($R^2 = 11.40\%$). In other words it has been further observed
that (b) intelligence has emerged as potential predictor more for career choice competencies totals than for career choice attitudes; their respective contributed percentages being 20.40% and 10.70%; (c) figural creativity totals has not emerged as a significant predictor of career choice competencies (its variance being zero percent) while 0.10% of the variance has been attributed by $F_{C_Y.T}$ for career choice attitudes, yet not a significant predictor of CCA; (d) on the other hand, verbal creativity totals ($V_{C_Y.T}$) has been identified as an insignificant predictor for career choice competencies totals, but for career choice attitudes it has emerged as a significant predictor at .05 level (0.60%).

In light of the above findings, the hypothesis V(i) "Intellectual variables are significant predictors of vocational maturity", as formulated earlier, may be accepted partially since it has been confirmed with respect to the intellectual variables - (i) intelligence (for both career choice competencies and career choice attitudes); (ii) figural creativity totals (neither for CCC nor for CCA); and (iii) verbal creativity totals (significant for CCA but insignificant for CCC).

Conclusion regarding intelligence appearing as the significant predictor of career choice competencies falls in line with the study of Agrawal (1981), since much of the research work conducted during past years has dealt with vocational
maturity - Attitude scale and not the competence test. While for career choice attitudes, intelligence being one of the best predictors has been quoted by a host of studies like Whitman (1972) reported mental ability as the statistically significant variable in the prediction of vocational attitude maturity for 8th and 12th grade children.

Findings of the Harkness's (1973) study resulted with I.Q. scores being the most significant single predictor of a child's occupational knowledge. It was concluded from the study of Lawrence and Brown (1976) that intelligence is a significant predictor of vocational maturity. Some more recent evidences in support of intelligence as one of the best predictors of vocational choice attitudes come from studies of Pavlak (1981); Agrawal (1981); Shaw (1982) and Chodzinski (1983); while intelligence was found to be a statistically significant but weak predictor of vocational maturity attitude scale, in the study conducted by Mintzer (1976).

MOSWL II a: Vocational maturity (career choice competencies) as predicted by eight (correlates of VM) personality factors.
the proportion of variance of the criterion measure of career choice competencies attributable to the conjoint effect of significant variables of personality. The value of $R^2 = .077$ indicates that 7.70% of whatever makes students differ in their career choice competencies is attributed to seven of the eight personality measures.

\[
R^2_{CCC} = .007 + .024 + .000 + .010 + .004 + .002 + .022 + .008 = .770
\]

indicates that 0.70% of the criterion measure of career choice competencies is attributable to personality factor $A^+$, 2.40% to factor $B^+$; 1.00% to factor $E^-$, 0.40% to factor $G^+$, 0.20% to factor $H^+$, 2.20% to factor $O^+$ and 0.80% to factor $Q_3^+$. The remaining 92.30% of the variance of career choice competencies is attributable to factors not measured in this case. The value of multiple correlation $R = .278$ is higher than the individual correlations between independent variables of personality factors $A^+, B^+, C^+, E^-, G^+, H^+, O^+, Q_3^+$ and dependent variables of career choice competencies (CCC), which are -

\[
\begin{align*}
    r_{CCC, A^+} &= .084, & r_{CCC, G^+} &= .096, \\
    r_{CCC, B^+} &= .164, & r_{CCC, H^+} &= .064, \\
    r_{CCC, C^+} &= .018, & r_{CCC, O^+} &= .118, \\
    r_{CCC, E^-} &= -.115, & r_{CCC, Q_3^+} &= .132.
\end{align*}
\]
F-test shows that for the dependent variable career choice competencies (CCC), addition of the predictor variables — personality factor $B^+$ (High Intelligence vs. Low Intelligence), factor $E^-$ (Submissive vs. Dominance), and factor $Q_3^+$ (controlled vs. Uncontrolled), are significant at .01 level ($F = 17.26, 7.29$ and $6.01$); vide Table-23. Addition of predictors namely factor $G^+$ (Conscientious vs. Expedient), factor $H^+$ (Adventurous vs. Shy), factor $O^+$ (Self Assured vs. Apprehensive) is insignificant ($F = 2.91, 1.47, 1.64$), where as factor $C^-$ (Emotionally Stable vs. Emotionally Unstable) is just not in the picture ($F = 0.00$).

It may thus be inferred that personality factors namely Intelligence, Submissive and Self Control have emerged as potential predictors of career choice competencies. Other personality factors namely — Conscientiousness, Adventurousness, Apprehensiveness and Emotional Stability have not emerged as significant predictors of vocational maturity.

**MODEL-II b:** Vocational maturity (career choice attitudes) as predicted by eight (correlates of VM) personality measures.

$R^2_{CCA}$ : (Pers. $A^+ B^+ C^+ E^- G^+ H^+ O^+ Q_3^+$) gives the proportion of variance of the criterion measure of career choice attitudes attributable to the conjoint effect of the eight variables of personality.
The value of $R^2 = .056$ indicates that 5.60% of whatever makes students differ in their career choice attitudes is attributed to all the eight personality measures.

$$R^2_{CCA} = .013 + .016 + .009 + .001 + .003 + .011$$
$$+ .001 + .002 = .056$$

indicates that 1.30% of the criterion measure of career choice attitudes is attributable to personality factor $A^+$ (Sociability), 1.60% to factor $B^+$ (Intelligence), 0.90% to factor $C^+$ (Ego-Strength), 0.10% to factor $E^-$ (Submissiveness), 0.30% to factor $G^+$ (Super Ego strength), 1.10% to factor $H^+$ (Adventurousness), 0.10% to factor $O^+$ (Guilt-Proneness) and 0.20% to factor $Q_{3}^+$ (Self-control). The remaining 94.40% of the variance of CCA is attributable to factors not measured in the present investigation. The value of multiple correlation $R = .237$ is higher than the individual correlations between independent variables viz. personality factors $A^+, B^+, C^+, E^-, G^+, H^+, O^+, Q_{3}^+$ and dependent variable viz. career choice attitudes (CCA), which are

$$r_{CCA, A^+} = .113, \quad r_{CCA, G^+} = .117,$$
$$r_{CCA, B^+} = .136, \quad r_{CCA, H^+} = .155,$$
$$r_{CCA, C^+} = .122, \quad r_{CCA, O^+} = -.021,$$
$$r_{CCA, E^-} = -.049, \quad r_{CCA, Q_{3}^+} = .091.$$
F-test shows that for the dependent variable career choice attitudes (CCA), addition of the predictors - factor B⁺ (High Intelligence vs. Low Intelligence) factor C⁺ (Emotionally stable vs. Emotionally unstable), and factor H⁺ (Adventurous vs. Shy) are significant at .01 level (F = 11.51, 6.52, 8.09 respectively) vide Table-24, whereas addition of the predictor's factor E⁻ (Submissive vs. Dominance) factor G⁺ (Conscientious vs. Expedient), factor O⁺ (Self Assured vs. Apprehensive), and factor Q₃⁺ (Uncontrolled vs. Controlled) is insignificant (F = 0.72, 2.17, 0.73 and 1.47 respectively).

From these findings it may be interpreted that personality factor B⁺ (Intelligence) factor C⁺ (Emotional Stability) and factor H⁺ (Adventurousness) do affect the career choice attitudes of students in career decision-making process, while factor E⁻ (Submissiveness), factor G⁺ (Conscientiousness), factor O⁺ (Self-assurity) and factor Q₃⁺ (controlled behaviour), seem to have only negligible contribution toward career choice attitudes.

By comparing models II a and IIb, it has been observed that (a) contribution of personality variables is higher for predicting career choice competencies ($R^2 = 7.70\%$) than for predicting career choice attitudes ($R^2 = 5.60\%$).
(b) personality factor B\textsuperscript{+} (Intelligence) has emerged as the most significant predictor of CCC as well as CCA, the percentage contribution being higher for CCC (2.40%) than for CCA (1.60%), (c) other personality factors that have emerged as potential predictors of vocational maturity (CCC) are factor E\textsuperscript{−} (Submissiveness) and self control (Factor Q\textsubscript{3}\textsuperscript{+}), while for career choice attitudes (CCA) these are factor C\textsuperscript{+} (Emotional Stability), and factor H\textsuperscript{+} (Adventurousness).

In view of the above findings, the hypothesis V(ii) "Personality variables are significant predictors of vocational maturity", as formulated earlier, may be accepted partially as out of eight personality factors (correlates of VM) namely A\textsuperscript{+}, B\textsuperscript{+}, C\textsuperscript{+}, E\textsuperscript{−}, G\textsuperscript{+}, H\textsuperscript{+}, Q\textsubscript{3}\textsuperscript{+}; only (i) three factors i.e. B\textsuperscript{+}, E\textsuperscript{−}, and Q\textsubscript{3}\textsuperscript{+} have emerged as potential predictors of career choice competencies, while (ii) three factors i.e. B\textsuperscript{+}, C\textsuperscript{+}, and H\textsuperscript{+} have appeared as potential predictors of career choice attitudes.

Not much of the references appear on the scene falling in line with the findings of present study, except for the study of Agrawal (1981), wherein personality factors A\textsuperscript{+}, H\textsuperscript{+}, G\textsuperscript{+}, Q\textsubscript{3}\textsuperscript{+} and D\textsuperscript{−} were found to be the significant variables in the prediction of career maturity for boys and girls at grade levels 8th, 10th and 12th.
MODEL IIIa: Vocational Maturity (career choice competencies) as predicted by the conjoint effect of intellectual (INT., F_{CY,T}, V_{CY,T}) and personality (A^+, B^+, C^+, E^-, G^+, H^+, O^+, Q_3^+) variables.

R^2_{CCC} : (INT. +Q_3^+ +O^+ + B^+ + E^- + G^+ + A^+ + H^+ + C^+ + F_{CY,T} + V_{CY,T}) gives the proportion of variance of the criterion variable of career choice competencies (CCC) attributable to the conjoint effect of the variables of intelligence (INT.), factor Q_3^+ (self-control), factor O^+ (Guilt Proneness), factor B^+ (Intelligence), factor E^- (Submissiveness), factor G^+ (super ego strength), factor A^+ (sociability), factor H^+ (Adventurousness), factor C^+ (Emotional Stability) verbal creativity totals (V_{CY,T}) and figural creativity totals (F_{CY,T}).

The value of R^2 = .233, shows that 23.30% of the variance is attributable to the intellectual and personality factors taken together. The remaining 76.70% of the variance of career choice competencies is attributed to other factors not taken into consideration in this study.
This equation indicates that 20.40% of the criterion measure of career choice competencies is attributable to intelligence; .60% to factor $Q_3^+$, .80% to factor $O^+$, .40% to factor $B^+$, .40% to factor $E^-$, .30% to factor $G^+$, .20% to factor $A^+$, .20% to figural creativity totals, and none to factor $H^+$, factor $C^+$, and verbal creativity totals.

The value of multiple correlation $R = .483$ is higher than the individual correlations between independent and dependent variables (CCC) which are

\[
\begin{align*}
r_{CCC, INT.} &= .452, & r_{CCC, G^+} &= .096, \\
r_{CCC, Q_3^+} &= .132, & r_{CCC, A^+} &= .084, \\
r_{CCC, O^+} &= .118, & r_{CCC, H^+} &= .064, \\
r_{CCC, B^+} &= .164, & r_{CCC, C^+} &= .018, \\
r_{CCC, E^-} &= -.113, & r_{CCC, FCY.T} &= .107, \\
& & r_{CCC, V_{CY.T}} &= .170. \\
\end{align*}
\]

F test shows that for the dependent variable career choice competencies (CCC), addition of the predictor variables Factor $O^+$ (Guilt Proneness) is significant at .01 level ($F = 7.14$) and of the variable factor $Q_3^+$ (Self-Control) is significant at .05 level ($F = 5.30$) vide Table-25.
From the above results it can be analysed that
(i) Intelligence is appearing as the most significant predictor of career choice competencies.
\( R^2 = .204 \) amongst the intellectual variables,
(ii) intelligence being the highest contributing factor to the variance in career choice competencies is helped by the Personality Factor \( Q_3^+ \) (self control) and factor \( O^+ \) (Guilt-Proneness).

Hence the variables up to the third step are the best set of predictors (in their present combination) depicting the conjoint effect of intellectual (INT.) and personality variables (\( Q_3^+ \), \( O^+ \)) for predicting career choice competencies.

**MODEL IIIb:** Vocational Maturity (career choice attitudes)
as predicted by the conjoint effect of intellectual (INT.)
\( F_{C Y.T}, V_{C Y.T} \) and personality (\( A^+, B^+, C^+, E^+, G^+, H^+, O^+, Q_3^+ \)) variables.

\( R^2_{CCA} : (INT. + H^+ + C^+ + B^+ + V_{C Y.T} + A^+ + F_{C Y.T} + Q_3^+ + G^+ + O^+ + E^-) \) gives the proportion of variance of the criterion measures of career choice attitudes (CCA) attributable to the conjoint effect of the variables of intelligence, factor \( H^+ \) (Adventurous), factor \( C^+ \) (Emotional Stability), factor \( B^+ \) (Intelligence), verbal creativity totals,
factor $A^+$ (Sociability), figural creativity totals, factor $Q_3^+$ (Self-control), factor $G^+$ (Super-ego strength), factor $O^+$ (Guilt proneness) and factor $E^-$ (Submissiveness).

The value of $R^2 = 0.144$ shows that 14.40% of the variance is attributable to the intellectual and personality factors taken together.

$R^2 = 0.107 + 0.014 + 0.006 + 0.005 + 0.005 + 0.003 + 0.001 + 0.002 + 0.001 + 0.000 + 0.000 = 0.144$ indicates that 10.70% of the criterion measure of career choice attitudes is attributable to intelligence (INT.), 1.40% to factor $H^+$, 0.60% to factor $C^+$, 0.50% to factor $B^+$, 0.50% to verbal creativity totals ($V_{CT}$), 0.30% to factor $A^+$, 0.10% to figural creativity totals ($F_{CT}$), 0.20% to factor $Q_3^+$, 0.10% to factor $G^+$, and none 0.00 to factor $O^+$ and factor $E^-$.

The value of multiple correlation $R = 0.379$ is higher than the individual correlations between independent variables of intelligence, factor $H^+$, $C^+$, $B^+$, verbal creativity totals, factor $A^+$, figural creativity totals, factor $Q_3^+$, $G^+$, $O^+$, $E^-$ and dependent variable of career choice attitudes, which are -
F-test shows that for the dependent variable career choice attitudes (CCA), addition of the predictor variable - factor H⁺ (Adventurous vs. Shy), to intelligence (INT.), is significant at .01 level (F = 11.11) and of the variables factor C⁺ (Emotional stability), factor B⁺ (Intelligence) and verbal creativity totals (Vᵀ) is significant at .05 level (F = 4.80, 4.03, and 4.03 respectively) as depicted in Table-26.

It can be analysed from the above results that (i) intelligence is appearing as the most significant predictor (R² = .107) of career choice attitudes, accounting for more than half of the variance of the total variance ( = .144), (ii) it is further helped by the personality factors H⁺, C⁺, B⁺ and (iii) verbal creativity totals (intellectual variable).
Hence the variables up to the fifth step are the best set of predictors (in their present combination) depicting the conjoint effect of intellectual (INT. and $V_{\text{CY},T}$) and personality variables (factors $H^+$, $C^+$ and $B^+$) for predicting career choice attitudes.

By comparing models III a and III b, it has been observed that (i) contribution by the conjoint effect of intellectual and personality variables for the prediction of career choice competencies is higher (23.30%) than that for career choice attitudes (14.40%); (ii) amongst the intellectual variables, intelligence has attributed greater variance for career choice competencies than for career choice attitudes, (iii) that contribution by another intellectual variable i.e. verbal creativity totals is depicted for the variance of career choice attitudes and not for career choice competencies, (iv) amongst the personality variables, for the variance of career choice competencies, factors $Q^+_3$, and $o^+$ have contributed, while factors $H^+$, $C^+$, $B^+$ have contributed to the variance of career choice attitudes.

These findings lead to conclude that (i) for career choice competencies, the 23.30% of the variance is explained by the conjoint effect of intellectual and
personality variables, which is higher than their separate contributions (20.50% by intellectual and 7.70% by personality variables, as indicated earlier vide models Ia and IIa); (ii) for career choice attitudes, the 14.40% of the variance is explained by the conjoint effect of intellectual and personality variables, which is higher than their separate contributions (11.40% by the intellectual and 5.60% by personality variables as indicated vide models Ib and IIb respectively).

Model III a and III b which assessed the predictive efficiency of only those measures of intellectual and personality variables (in their conjoint effect), which showed significant 'r' correlations with vocational maturity (CCC and CCA) and which emerged as potential predictors of vocational maturity in their separate contributions; emerged as the best model explaining the variance in career choice competencies and career choice attitudes. Thus, this model may be taken up as the most convenient model for determining the predictive efficiency of predictor variables.

On the strength of above results obtained the hypothesis V (iii) that "Intellectual and personality variables conjointly contribute better towards the prediction" of vocational maturity than their separate predictions may be accepted.
At postulated by Super and Overstreet (1960) it may be agreed thus "that vocational behaviour is the result of a variety of determinants. Some determinants ........ are more important than other determinants". Recently, Shaw (1982) while studying the influence of family-related factors, and some conventional variables as intellectual ability, academic performance, age, etc, on the vocational maturity of high school seniors, concluded by saying that "as theory and common sense would suggest, both types of variables are needed to understand why some students are mature vocationally than others and are coping better with the vocational developmental tasks which are confronting them".

Summary of significant predictors of vocational maturity vide different models has been depicted in Table-27.

**TABLE - 27**

**Summary of Potential Predictors of Vocational Maturity**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Significant Predictor Variables</th>
<th>Percentage Contribution of Variance for CCC</th>
<th>CCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ia</td>
<td>Intelligence</td>
<td>20.50%</td>
<td>-</td>
</tr>
<tr>
<td>Ib</td>
<td>INT. + V_{CY.T}</td>
<td>-</td>
<td>11.40%</td>
</tr>
<tr>
<td>IIA</td>
<td>B^+ + E^- + Q_3^+</td>
<td>7.70%</td>
<td>-</td>
</tr>
<tr>
<td>IIb</td>
<td>B^+ + C^+ + H^+</td>
<td>-</td>
<td>5.60%</td>
</tr>
<tr>
<td>IIIa</td>
<td>INT. + O^+ + Q_3^+</td>
<td>23.30%</td>
<td>-</td>
</tr>
<tr>
<td>IIIb</td>
<td>INT. + H^+ C^+ + B^+ + V_{CY.T}</td>
<td>-</td>
<td>14.40%</td>
</tr>
</tbody>
</table>
From Table-27 following conclusions have been drawn:

1. (i) Amongst the intellectual variables (including intelligence, verbal creativity totals and figural creativity totals) intelligence appears as the most potential predictor of vocational maturity, its percentage contribution of variance is higher in career choice competencies than in career choice attitudes.

(ii) Verbal creativity totals emerges as a potential predictor for career choice attitudes and not for career choice competencies.

(iii) Figural creativity totals does not appear as a significant predictor of vocational maturity (neither for career choice competencies nor for career choice attitudes).

(iv) The total percentage of contribution attributed by intellectual variables (intelligence, verbal creativity totals and figural creativity totals) is higher for career choice competencies than for career choice attitudes.

2. (i) Amongst the personality variables (factors $A^+, B^+, C^+, E^-, G^+, H^+, O^+, Q_3^+$), personality factor 'Intelli-
gence' \((B^+ )\) appears as the most significant predictor for career choice competencies as well as career choice attitudes, its percentage of contribution being higher for the former.

(ii) In addition to personality factor \(B^+ \) (Intelligence), other personality factors that have emerged as potential predictors for vocational maturity are factor \(E^-\) (Submissiveness) and factor \(Q_3^+\) (Self Control), career choice competencies, and factor \(C^+\) (Emotional Stability) and factor \(H^+\) (Adventurousness) for career choice attitudes.

(iii) The total percentage of contribution attributed by personality variables - Intelligence \((B^+ )\), Emotional Stability \((C^+ )\), Submissiveness \((E^- )\), Super Ego-Strength \((G^+ )\), Adventurous \((H^+ )\), Guilt Proneness \((O^+ )\), and Self Control \((Q_3^+ )\), is higher for career choice competencies than for career choice attitudes.

3. On visualizing the findings related to intellectual and personality variables as potential predictors of vocational maturity (differentially), it has been noticed that percentage contribution attributed by intellectual variables is higher than that contributed by personality variables, both for career choice competencies as well as career choice attitudes.
4. As regards the conjoint effect of intellectual and personality variables for predicting vocational maturity, it is seen that -

(i) amongst the three intellectual variables considered for predictive efficiency, intelligence has contributed significantly both for the variances of career choice competencies as well as career choice attitudes; and

(ii) verbal creativity totals has attributed significant contribution for the variance of career choice attitudes only;

(iii) amongst the eight personality variables (identified as significant correlates of vocational maturity) viz. factor $A^+$, $B^+$, $C^+$, $E^-$, $G^+$, $H^+$, $O^+$, $Q_3^+$, as undertaken for finding out the predictive efficiency for vocational maturity (in conjoint effect with intellectual variables), only two factors namely - Guilt Proneness (factor $O^+$), and 'Self-Control' ($Q_3^+$) have appeared as significant predictors for career choice competencies, while three personality factors namely - Intelligence (factor $B^+$), Emotional Stability ($C^+$) and Adventurousness ($H^+$) have emerged as significant predictors for career choice attitudes.
(iv) The total percentage of contribution, attributed by the conjoint effect of intellectual and personality variables for the prediction of vocational maturity, is higher for the variance of career choice competencies than for career choice attitudes.

5. Global picture of results based on regression analysis (vide models Ia, Ib, IIa, IIb, IIIa and IIIb) depicts, the higher percentage of contribution by intellectual as well as personality variables (in their differential as well as conjoint effects) for the variance of career choice competencies than that for career choice attitudes.

Findings as based on the regression analysis, tend to suggest that students of high intelligence, high creativity, with emotional stability, general intelligence, self-control, submissiveness and adventurousness, display greater maturity of career choice competencies and career choice attitudes during adolescence.

In general, it may be inferred that multiplicity of intellectual as well as personality factors (that have been identified as statistically significant correlates and predictors of career choice competencies and career choice attitudes) influence the multidimensional construct of vocational maturity.
TABLE 21

Step-up Regression Equations ( N = 700 ) Dependent Variable: Career Choice Competencies

Effect of Intellectual Variables

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Predictor Variables</th>
<th>DF</th>
<th>R</th>
<th>R²</th>
<th>F-ratio</th>
<th>Step-up Regression Equations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>INT. (1)</td>
<td></td>
<td>.452</td>
<td>.204</td>
<td></td>
<td>Y = 29.83 + .41x₁</td>
</tr>
<tr>
<td>1b</td>
<td>F_CY.T (2)</td>
<td></td>
<td>.452</td>
<td>.204</td>
<td>0.00</td>
<td>Y = 26.09 + .42x₁ -.00x₂</td>
</tr>
<tr>
<td>1c</td>
<td>V_CY.T (3)</td>
<td></td>
<td>.453</td>
<td>.205</td>
<td>0.87</td>
<td>Y = 25.28 + .40x₁ -.01x₂ + .02x₃</td>
</tr>
</tbody>
</table>

IQ.
**TABLE - 22**

**Step-Up Regression Equations (N = 700) Dependent Variable: Career Choice Attitudes**

**Effect of Intellectual Variables**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Predictor Variables</th>
<th>Df</th>
<th>R</th>
<th>$R^2$</th>
<th>F-ratio</th>
<th>Step-up Regression Equations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>INT. (1)</td>
<td>-</td>
<td>0.327</td>
<td>0.107</td>
<td>-</td>
<td>$Y = 38.11 + .20x_1$</td>
</tr>
<tr>
<td>1b</td>
<td>F.CY.T (2)</td>
<td>1,697</td>
<td>0.329</td>
<td>0.108</td>
<td>0.78</td>
<td>$Y = 29.52 + .19x_1 + .00x_2$</td>
</tr>
<tr>
<td>1c</td>
<td>V.CY.T (3)</td>
<td>1,696</td>
<td>0.338</td>
<td>0.114</td>
<td>4.72*</td>
<td>$Y = 28.46 + .18x_1 - .01x_2 + .02x_3$</td>
</tr>
</tbody>
</table>

* Significant at .05 Level
### TABLE - 23

Step-up Regression Equations (N - 700) Dependent Variable: Career Choice Competencies

**Effect of Personality Variables**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Predictor Variables</th>
<th>Df</th>
<th>R</th>
<th>R²</th>
<th>F-ratio</th>
<th>Step-up Regression Equations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1la</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2a</td>
<td>Pers. A(1)</td>
<td>-</td>
<td>.081</td>
<td>.087</td>
<td>-</td>
<td>Y = 38.81 + .29x₁</td>
</tr>
<tr>
<td>2b</td>
<td>Pers. B(2)</td>
<td>1,697</td>
<td>.178</td>
<td>.031</td>
<td>17.26**</td>
<td>Y = 35.90 + .25x₁ + .57x₂</td>
</tr>
<tr>
<td>2c</td>
<td>Pers. C(3)</td>
<td>1,696</td>
<td>.178</td>
<td>.031</td>
<td>0.00</td>
<td>Y = 35.96 + .25x₁ + .57x₂ - .02x₃</td>
</tr>
<tr>
<td>2d</td>
<td>Pers. E(4)</td>
<td>1,695</td>
<td>.202</td>
<td>.041</td>
<td>7.29**</td>
<td>Y = 35.11 + .21x₁ + .54x₂ - .01x₃ - .33x₄</td>
</tr>
<tr>
<td>2e</td>
<td>Pers. G(5)</td>
<td>1,694</td>
<td>.213</td>
<td>.045</td>
<td>2.91</td>
<td>Y = 37.18 + .19x₁ + .54x₂ - .09x₃ - .31x₄ + .26x₅</td>
</tr>
<tr>
<td>2f</td>
<td>Pers. H(6)</td>
<td>1,693</td>
<td>.217</td>
<td>.047</td>
<td>1.47</td>
<td>Y = 36.83 + .14x₁ + .54x₂ - .12x₃ - .32x₄ + .23x₅ + .18x₆</td>
</tr>
<tr>
<td>2g</td>
<td>Pers. O(7)</td>
<td>1,692</td>
<td>.262</td>
<td>.069</td>
<td>1.64</td>
<td>Y = 32.54 + .12x₁ + .49x₂ - .01x₃ - .34x₄ - .34x₅ + .27x₆ + .59x₇</td>
</tr>
<tr>
<td>2h</td>
<td>Pers. Q(8)</td>
<td>1,691</td>
<td>.278</td>
<td>.077</td>
<td>6.01**</td>
<td>Y = 31.09 + .10x₁ + .48x₂ - .05x₃ - .28x₄ + .27x₅ + .28x₆ + .59x₇ - .32x₈</td>
</tr>
</tbody>
</table>

** SIGNIFICANT AT .01 LEVEL
### Step-up Regression Equations (N = 700) Dependent Variable: Career Choice Attitudes

**Effect of Personality Variables**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Predictor Variables</th>
<th>Df</th>
<th>R</th>
<th>R^2</th>
<th>F-ratio</th>
<th>Step-up Regression Equations</th>
</tr>
</thead>
<tbody>
<tr>
<td>11b.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2a</td>
<td>Pers. A (1)</td>
<td></td>
<td>.113</td>
<td>.013</td>
<td></td>
<td>Y = 35.70 + .26x_1</td>
</tr>
<tr>
<td>2b</td>
<td>Pers. B (2)</td>
<td>1,697</td>
<td>.170</td>
<td>.029</td>
<td>11.51*</td>
<td>Y = 34.14 + .24x_1 + .30x_2</td>
</tr>
<tr>
<td>2c</td>
<td>Pers. C (3)</td>
<td>1,696</td>
<td>.195</td>
<td>.038</td>
<td>6.52*</td>
<td>Y = 33.20 + .19x_1 + .29x_2 + .24x_3</td>
</tr>
<tr>
<td>2d</td>
<td>Pers. D (4)</td>
<td>1,695</td>
<td>.197</td>
<td>.039</td>
<td>0.72</td>
<td>Y = 33.61 + .18x_1 + .29x_2 + .24x_3 + .06x_4</td>
</tr>
<tr>
<td>2e</td>
<td>Pers. E (5)</td>
<td>1,694</td>
<td>.206</td>
<td>.042</td>
<td>2.17</td>
<td>Y = 33.09 + .16x_1 + .29x_2 + .20x_3 + .05x_4 + .15x_5</td>
</tr>
<tr>
<td>2f</td>
<td>Pers. F (6)</td>
<td>1,693</td>
<td>.230</td>
<td>.053</td>
<td>8.09**</td>
<td>Y = 32.53 + .12x_1 + .29x_2 + .14x_3 + .07x_4 + .10x_5 + .28x_6</td>
</tr>
<tr>
<td>2g</td>
<td>Pers. G (7)</td>
<td>1,692</td>
<td>.232</td>
<td>.054</td>
<td>0.73</td>
<td>Y = 31.87 + .12x_1 + .28x_2 + .16x_3 + .08x_4 + .11x_5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>+ .10x_6 + .09x_7</td>
</tr>
<tr>
<td>2h</td>
<td>Pers. H (8)</td>
<td>1,691</td>
<td>.237</td>
<td>.056</td>
<td>1.47</td>
<td>Y = 31.39 + .11x_1 + .27x_2 + .14x_3 + .06x_4 + .09x_5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>+ .30x_6 + .09x_7 + .11x_8</td>
</tr>
</tbody>
</table>

**Significant at .01 level**
### Table 25

**Step-up Regression Equations (N = 700) Dependent Variable: Career Choice Competencies**

Conjoint Effect of Intellectual and Personality Variables

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Predictor Variables</th>
<th>R</th>
<th>$R^2$</th>
<th>Increment in $R^2$</th>
<th>F-ratio</th>
<th>Df</th>
<th>Step-up Regression Equations</th>
</tr>
</thead>
<tbody>
<tr>
<td>IIIa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3a</td>
<td>INT. (1)</td>
<td>.452</td>
<td>.204</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>$Y = 25.83 + .41x_1$</td>
</tr>
<tr>
<td>3b</td>
<td>Pers.C (2)</td>
<td>.459</td>
<td>.210</td>
<td>.006</td>
<td>5.30</td>
<td>1.697</td>
<td>$Y = 24.60 + .40x_1 + .28x_2$</td>
</tr>
<tr>
<td>3c</td>
<td>Pers.O (3)</td>
<td>.467</td>
<td>.218</td>
<td>.008</td>
<td>7.14**</td>
<td>1.696</td>
<td>$Y = 23.05 + .40x_1 + .31x_2 + .31x_3$</td>
</tr>
<tr>
<td>3d</td>
<td>Pers.B (4)</td>
<td>.472</td>
<td>.222</td>
<td>.004</td>
<td>3.57</td>
<td>1.695</td>
<td>$Y = 22.17 + .38x_1 + .30x_2 + .30x_3 + .26x_4$</td>
</tr>
<tr>
<td>3e</td>
<td>Pers.E (5)</td>
<td>.476</td>
<td>.226</td>
<td>.004</td>
<td>3.60</td>
<td>1.694</td>
<td>$Y = 23.77 + .38x_1 + .26x_2 + .31x_3 + .24x_4 - .22x_5$</td>
</tr>
<tr>
<td>3f</td>
<td>Pers.G (6)</td>
<td>.479</td>
<td>.229</td>
<td>.003</td>
<td>2.70</td>
<td>1.693</td>
<td>$Y = 22.69 + .37x_1 + .21x_2 + .37x_3 - .23x_4 - .21x_5$</td>
</tr>
</tbody>
</table>

| 3g        | Pers.A (7)          | .481| .231  | .002               | 1.80    | 1.692 | $Y = 22.18 + .38x_1 + .20x_2 + .37x_3 + .23x_4 - .20x_5$ + .18x_6 + .33x_7 |
| 3h        | Pers.H (8)          | .481| .231  | .000               | 0.00    | 1.691 | $Y = 21.95 + .37x_1 + .21x_2 + .38x_3 + .22x_4 - .21x_5 + .17x_6 + .12x_7 + .08x_8$ |
| 3i        | Pers.C (9)          | .481| .231  | .000               | 0.00    | 1.690 | $Y = 22.12 + .37x_1 + .21x_2 + .37x_3 + .23x_4 - .21x_5 + .18x_6 + .13x_7 + .08x_8 - .05x_9$ |
| 3j        | $V_{CT}$ (10)       | .481| .231  | .000               | 0.00    | 1.689 | $Y = 21.81 + .37x_1 + .21x_2 + .37x_3 + .23x_4 - .21x_5 + .18x_6 + .12x_7 + .09x_8 - .06x_9 + .00x_{10}$ |
| 3k        | $F_{CT}$ (11)       | .483| .233  | .002               | 1.80    | 1.688 | $Y = 21.52 + .37x_1 + .22x_2 + .37x_3 + .23x_4 - .20x_5 + .18x_6 + .12x_7 + .10x_8 - .07x_9 + .02x_{10} - .01x_{11}$ |

* = Significant at .05 level.

** = Significant at .01 level.
**TABLE - 26**

Step-up Regression Equations (N = 700)  
Dependent Variable: Career Choice Attitudes

Conjoint Effect of Intellectual and Personality Variables

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Predictor Variables</th>
<th>$R$</th>
<th>$R^2$ Increment in $R^2$</th>
<th>F-ratio</th>
<th>Df</th>
<th>Step-up Regression Equations</th>
</tr>
</thead>
<tbody>
<tr>
<td>11lb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3a</td>
<td>INT. (1)</td>
<td>.327</td>
<td>.107</td>
<td>-</td>
<td>-</td>
<td>$Y = 30.11 + .20x_1$</td>
</tr>
<tr>
<td>3b</td>
<td>Pers. H (2)</td>
<td>.348</td>
<td>.121</td>
<td>.014</td>
<td>11.11**</td>
<td>$Y = 28.78 + .19x_1 + .30x_2$</td>
</tr>
<tr>
<td>3c</td>
<td>Pers. C (3)</td>
<td>.356</td>
<td>.127</td>
<td>.006</td>
<td>4.80</td>
<td>$Y = 28.11 + .19x_1 + .25x_2 + .19x_3$</td>
</tr>
<tr>
<td>3d</td>
<td>Pers. B (4)</td>
<td>.363</td>
<td>.132</td>
<td>.005</td>
<td>4.03*</td>
<td>$Y = 27.52 + .18x_1 + .25x_2 + .15x_3 + .16x_4$</td>
</tr>
<tr>
<td>3e</td>
<td>$V_{X.Y.T}$ (5)</td>
<td>.370</td>
<td>.137</td>
<td>.005</td>
<td>4.03*</td>
<td>$Y = 25.98 + .16x_1 + .25x_2 + .18x_3 + .18x_4 + .01x_5$</td>
</tr>
<tr>
<td>3f</td>
<td>Pers. A (6)</td>
<td>.374</td>
<td>.140</td>
<td>.003</td>
<td>2.41</td>
<td>$Y = 25.72 + .16x_1 + .22x_2 + .16x_3 + .17x_4 + .01x_5 + .12x_6$</td>
</tr>
<tr>
<td>3g</td>
<td>$F_{X.Y.T}$ (7)</td>
<td>.376</td>
<td>.141</td>
<td>.001</td>
<td>0.80</td>
<td>$Y = 25.54 + .16x_1 + .23x_2 + .15x_3 + .17x_4 + .02x_5 + .11x_6 - .01x_7$</td>
</tr>
<tr>
<td>3h</td>
<td>Pers. Q (8)</td>
<td>.378</td>
<td>.143</td>
<td>.002</td>
<td>1.61</td>
<td>$Y = 25.28 + .16x_1 + .22x_2 + .14x_3 + .17x_4 + .02x_5 + .11x_6 - .01x_7 + .07x_8$</td>
</tr>
<tr>
<td>3i</td>
<td>Pers. G (9)</td>
<td>.379</td>
<td>.144</td>
<td>.001</td>
<td>0.80</td>
<td>$Y = 25.20 + .16x_1 + .22x_2 + .13x_3 + .17x_4 + .02x_5 + .10x_6 - .01x_7 + .07x_8 + .05x_9$</td>
</tr>
<tr>
<td>3j</td>
<td>Pers. O (10)</td>
<td>.379</td>
<td>.144</td>
<td>.000</td>
<td>0.00</td>
<td>$Y = 25.34 + .16x_1 + .22x_2 + .13x_3 + .17x_4 + .02x_5 + .10x_6 - .01x_7 + .06x_8 + .05x_9 - .02x_{10}$</td>
</tr>
<tr>
<td>3k</td>
<td>Pers. E (11)</td>
<td>.379</td>
<td>.144</td>
<td>.000</td>
<td>0.00</td>
<td>$Y = 25.47 + .16x_1 + .22x_2 + .13x_3 + .17x_4 + .02x_5 + .10x_6 - .01x_7 + .06x_8 + .05x_9 - .02x_{10} - .02x_{11}$</td>
</tr>
</tbody>
</table>

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