3. METHODOLOGY
3. METHODOLOGY

3.1 Need for the Study

Today's children are tomorrow's citizens. To have a stable, crimeless and peaceful society, youth are of foremost importance who are going to be the torch bearers of a future nation and of a generation. So this class with remarkable physiological and psychological changes and marked for uniqueness is of great concern. It is very much true that their parental role is equally important in formation of their personality. Adolescents with sound, balanced personality are better adjusted and can contribute to the society to a greater extent. Thus it is important to see that the adolescents should have high self confidence and self-efficacy through which they can manage their stress. This is possible provided the parent-child relationship is favorable.

Parents are expected to have knowledge of keeping good relationship with their adolescent child as it is a challenging period. Thus they have to play their role properly. Due to drastic change in present life style of adolescents the parents are unable to understand them and thus results in wide generation gap. When adolescents were expected to have higher self-confidence and self-efficacy as well as capacity to manage the stress, it is
necessary that they should emotionally be matured enough. Thus one can infer that parent-child relationship and emotional maturity play significant role in shaping the personality of children. In view of this, the present study attempts to observe the impact of parent-child relationship and emotional maturity on the self-confidence, self-efficacy and stress of adolescents.

3.2 Objectives of the Study

In view of the above need for the study, the present investigation has taken up with the following objectives:

1) To study empirically the impact of Parent-child Relationship and Emotional maturity of adolescents on their self-confidence, self-efficacy and stress.

2) To study empirically the impact of demographic factors such as age, sex, order of birth, number of siblings, health, exercise, hobbies, academic achievement, primary education, background and type of family and type of stay of adolescents on their self-confidence, self-efficacy and stress.

The above mentioned objectives have led to investigation of the following major research questions:
3.3 Research Questions

1. Do self-confidence, self-efficacy and stress of adolescents are significantly influenced by their parent-child relationship and emotional maturity?

2. Do the personal factors such as age, sex, order of birth, number of siblings, health, exercise, hobbies, academic achievement, primary education background and type of family and type of stay of adolescents influence significantly their self-confidence, self-efficacy and stress?

3.4 Hypotheses

It is certain that varying type of Parent-child relationship and different level of emotional maturity do have some significant impact on self-confidence, self-efficacy and stress of children.

The following hypotheses are formulated to seek answers for the above mentioned research questions. Depending on the quality of parent-child relationship and their emotional maturity, there is difference in self-efficacy self-confidence and experience of stress in adolescents. Thus it is hypothesized that:
**Ha**: Children of different level of parent-child relationship and emotional maturity differ significantly from one another in their self-confidence, self-efficacy and stress.

Further, the impact of parent-child relationship and emotional maturity are also be tested by formulating specific hypotheses. Thus it is hypothesized as below;

**Ha**<sub>1.1</sub>: Adolescent children with varying level of Parent-Child Relationship (Dimension wise and overall) differ significantly from one another in their Self-confidence, Self-efficacy and Stress.

**Ha**<sub>1.1.1</sub>: Adolescent children with varying level of Parent-Child Relationship (dimension wise and Overall) differ significantly from one another in their self-confidence.

**Ha**<sub>1.1.2</sub>: Adolescent children with varying level of Parent-Child Relationship (dimension wise and Overall) differ significantly from one another in their self-efficacy.

**Ha**<sub>1.1.3</sub>: Adolescent children with varying level of Parent-Child Relationship (dimension wise and Overall) differ significantly from one another in their stress.
**Ha$_{1.1.1.1}$**: Adolescent children with less favorable Parent-child Relationship (dimension wise and overall) differ significantly from those with moderate parent child relationship in their self confidence

**Ha$_{1.1.1.2}$**: Adolescent children with less favorable Parent-child Relationship (dimension wise and overall) differ significantly from those with more favorable in their self confidence

**Ha$_{1.1.1.3}$**: Adolescent children with moderate favorable Parent-child Relationship (dimension wise and overall) differ significantly from those with more favorable in their self confidence

**Ha$_{1.1.2.1}$**: Adolescent children with less favorable Parent-child relationship (dimension wise and overall) differ significantly from those with moderate parent child relationship in their self-efficacy

**Ha$_{1.1.2.2}$**: Adolescent children with less favorable Parent-child relationship (dimension wise and overall) differ significantly from those with more favorable parent child relationship in their self-efficacy

**Ha$_{1.1.2.3}$**: Adolescent children with moderate favorable Parent-child relationship (dimension wise and overall) differ significantly from those with more favorable parent child relationship in their self-efficacy
Ha_{1,1,3.1}: Adolescent children with less favorable Parent-child relationship (dimension wise and overall) differ significantly from those with moderate parent-child relationship in their stress.

Ha_{1,1,3.2}: Adolescent children with less favorable Parent-child Relationship (dimension wise and overall) differ significantly from those with more favorable parent-child relationship in their stress.

Ha_{1,1,3.3}: Adolescent children with moderate favorable Parent-child Relationship (dimension wise and overall) differ significantly from those with more favorable parent-child relationship in their stress.

Ha_{1.1} to Ha_{1,1,3.3} is applicable to both mother and father form as far as Parent-Child relationship is concerned.
**Hà1.2:** Adolescent children with varying level of Emotional Maturity (Dimension wise and overall) differ significantly from one another in their Self-confidence, Self-efficacy and Stress

**Hà1.2.1:** Adolescent children with varying level of Emotional Maturity differ from one another in their Self-confidence

**Hà1.2.1.1:** Adolescent children with less Emotional Maturity (dimension wise and overall) differ significantly from those with moderate Emotional maturity in their self confidence

**Hà1.2.1.2:** Adolescent children with less Emotional Maturity (dimension wise and overall) differ significantly from those with high Emotional maturity in their self confidence

**Hà1.2.1.3:** Adolescent children with moderate Emotional Maturity (dimension wise and overall) differ significantly from those with high Emotional maturity in their self confidence

**Hà1.2.2:** Adolescent children with varying level of Emotional Maturity differ from one another in their Self-efficacy

**Hà1.2.2.1:** Adolescent children with less Emotional Maturity (dimension wise and overall) differ significantly from those with moderate Emotional maturity in their self-efficacy
**Ha_{1.2.2.2}:** Adolescent children with less Emotional Maturity (dimension wise and overall) differ significantly from those with high Emotional maturity in their self-efficacy

**Ha_{1.2.2.3}:** Adolescent children with moderate Emotional Maturity (dimension wise and overall) differ significantly from those with high Emotional maturity in their self-efficacy

**Ha_{1.2.3.1}:** Adolescent children with varying level of Emotional Maturity differ from one another in their Stress

**Ha_{1.2.3.2}:** Adolescent children with less Emotional Maturity (dimension wise and overall) differ significantly from those with moderate Emotional maturity in their Stress

**Ha_{1.2.3.3}:** Adolescent children with moderate Emotional Maturity (dimension wise and overall) differ significantly from those with high Emotional maturity in their Stress
Apart from the influence of parent-child relationship and emotional maturity of adolescents, there are several other personal and work related factors, which contribute to their self-confidence self-efficacy and stress. Therefore it is assumed that some such factors like age, sex, order of birth, number of siblings, health, exercise, hobbies, academic achievement, early background and type of family do influence the self-confidence, self-efficacy and stress of adolescents

$\textbf{Ha}_2$: Age, sex, order of birth, number of siblings, health, exercise, hobbies, academic achievement, primary education, early background and type of family and type of stay of adolescents significantly contribute to their self-confidence, self-efficacy and stress

These demographic factors may be having differential impact on each of the dependent variables viz self-confidence, self-efficacy and stress.

Thus it is hypothesized as follows;

$\textbf{Ha}_{2,1}$: Age, sex, order of birth, number of siblings, health, exercise, hobbies, academic achievement, primary education, early background and type of family and type of stay of adolescents significantly contribute to their self-confidence.
Ha2.2: Age, sex, order of birth, number of siblings, health, exercise, hobbies, academic achievement, primary education, early background and type of family and type of stay of adolescents significantly contribute to their self-efficacy.

Ha2.3: Age, sex, order of birth, number of siblings, health, exercise, hobbies, academic achievement, primary education, early background and type of family and type of stay of adolescents significantly contribute to their stress.

3.5 Operational Definition of variables

The following operational definitions have been formulated provided for each of the variables under study:

Self-Confidence: It is faith and trust in us to deal with the situation and overcome the obstacles in order to succeed in life.

Self-Efficacy: The belief one has in his abilities to meet the challenging demands of environment by means of one's resources and adaptive actions.

Stress: Stress is a state of mind and body resulting in exhaustion by taxing or demanding one's resources and threatening his/her being.
**Parent-Child Relationship**: The parent-child relationship consists of a combination of behaviors, feelings, and expectations that are unique to a particular parent and a particular child. The relationship provides the full extent of a child’s development.

**Emotional Maturity**: It is the awareness of one’s feelings and emotions, both positive and negative, and the ability to manage the expression and experience of these emotions for the benefit of oneself and others.

### 3.6 Design

In this investigation while developing research design, variables like parent-child relationship and emotional maturity are taken as independent variables; self-confidence, self-efficacy and stress are taken as dependent variables. In further analysis also, demographic factors such as age, sex, order of birth number of siblings, health, exercise, hobbies, academic achievement, primary education, background and type of family are taken as independent variables (X1,...,X11), while self-confidence, self-efficacy and stress are again taken as dependent variables (Y1,Y2 and Y3).
3.7 Sample

The quota sample of the present study consists of 567 students studying in XI and XII classes (Pre-University courses) from three different colleges which are having the students from all socio-economic status but the colleges having same environmental conditions. The age range of the students is 16-19 years as the study intended to focus on the adolescents. The selected colleges in the study are Karnataka College, Janata Shikshan Samithi College and Kittle College, Dharwad, Karnataka State, India.

The sample consists of male and female students as well as the students from Science, arts and Commerce faculties.

Table 3.1 Distribution of sample in terms of faculties, class and sex.

<table>
<thead>
<tr>
<th>Faculties</th>
<th>Class</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
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<td>68</td>
<td>225</td>
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<td>12th</td>
<td>000</td>
<td>30</td>
<td>030</td>
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<tr>
<td></td>
<td>Total</td>
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<td>98</td>
<td>255</td>
</tr>
<tr>
<td>Arts</td>
<td>11th</td>
<td>070</td>
<td>34</td>
<td>104</td>
</tr>
<tr>
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<td>Total</td>
<td>103</td>
<td>99</td>
<td>202</td>
</tr>
<tr>
<td>Commerce</td>
<td>11th</td>
<td>060</td>
<td>07</td>
<td>067</td>
</tr>
<tr>
<td></td>
<td>12th</td>
<td>020</td>
<td>23</td>
<td>043</td>
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<tr>
<td></td>
<td>Total</td>
<td>080</td>
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<tr>
<td>Total</td>
<td>340</td>
<td>227</td>
<td></td>
<td>567</td>
</tr>
</tbody>
</table>
3.8 Measures Used

3.8.1 Agnihotri’s Self-Confidence Inventory (ASCI)

The ASCI has been designed in Hindi to assess the level of self-confidence among adolescents and adults. The abbreviated name has been used so that the respondent may not decipher the real purpose of the test and fake good. This inventory developed by Rekha Agnihotri (1987) on adolescents has 56 items with two response alternatives viz., ‘Yes’ or ‘No’.

The split-half reliability coefficients of the inventory is 0.91, K-R Formula 0.89 and test-retest 0.78. As far as validity is concerned, item-analysis validity co-efficient biserial correlation with total scores yielded 0.25.

The inventory was also validated by correlating the scores obtained on this inventory with the scores obtained by the subjects on Basavanna’s (1975) self-confidence inventory. The validity coefficient obtained is 0.82 which is significant beyond 0.01 levels.

3.8.2 The General Self-efficacy Scale:

This scale is developed by Mathias Jerusalem and Ralf Schewarzer (1993). This is designed for the general adult population, including adolescents. It is unidimensional 4-point scale with 10 items.
The authors reported that Cronbach's alpha ranges from 0.76 to 0.90 for the sample taken from 23 nations. Thus the scale is found to be highly reliable. Criterion validity is documented in numerous co-relational studies where positive co-efficient were found with favorable emotions, dispositional optimism and work satisfaction. Negative coefficients were found with depression, anxiety, stress burnout and health complaints. Even authors have reported high predictive validity of the scale.

3.8.3 Stress

Students stress scale developed by Deo (1997) which consists of 60 items related to stress creating situations is used in the study. Each item has a, b, c and d alternatives. 60 items related to stress creating situations, emphasizing five major domains of life experiences of 12th standard students are constructed. It covers

1. Parents' child rearing practices and parental demands.
2. Teachers' learning methods and study habits of the students.
3. Interpersonal relations with peers and expectations of relatives and significant others.
4. Ambiguity about future success and doubts regarding getting admission in the desired field of education.

5. Shortage of time.

Content validity of the scale was ensured. The scale is found to have satisfactory content validity.

3.8.4 Parent-Child Relationship Scale

Singh.R.A (1981) developed this Parent-child relationship scale in Hindi. It consists of six sub scales each having 10 items which was prepared to denote specific and observable behavior. These are loving, dominating, rejecting, protecting, punishing and disciplining. A separate but identical form for mother (M Form) and father (F Form) has been prepared for Hindi medium pupils. All the items are to be answered with two alternatives i.e. 'Yes' or 'No'.

The internal consistency reliability computed with Spearman-Brown formula ranged from 0.59 to 0.82.
3.8.5 Emotional Maturity

For measuring emotional maturity of adolescents, a scale developed by Singh and Bhargav (1990) was used. The scale has a total of 48 items with five dimensions such as emotional unstability, emotional regression, Social maladjustment, personality disintegration and lack of independence. It is five point Likert scale.

3.8.5.1 Emotional Unstability

This is a broad factor representing syndrome of lack of capacity to dispose off problems, irritability, needs, and constant help for one’s day to day work, vulnerability, stubbornness and temper tantrums. This factor has a high correlation (0.75) with the total score obtained on the scale. On the inter-correlation matrix, syndrome of emotion unstability has high inter correlation with social maladjustment but low correlations with emotional regression, and lack of independence.

3.8.5.2 Emotional Regression

Emotional regression is also a broad group of factors representing such syndromes as feeling of inferiority, restlessness, hostility aggressiveness and self -centeredness. On inter-correlation matrix, it is
highly inter-correlated with other two factors, that of personality disintegration (0.47) and lack of independence (0.47), but has low intercorrelations with those emotional unstability (0.18) and social maladjustment factors (0.27). This subscale also has a high correlation (0.63) with the total score.

3.8.5.3 Social Maladjustment

The author reported that socially maladjusted person shows lack of social adaptability, high hatred ness, seclusive but boasting, liar and shirker.

3.8.5.4 Personality Disintegration

It includes all those symptoms, which represent disintegration of personality, like reaction, phobias formation, rationalization, pessimism, immorality etc. Such a person suffers from inferiorities and reacts to environment through aggressiveness, destruction and has distorted sense of reality. In brief such a person shows varied degree of neuroticism.
3.8.5.5 Lack of Independence

Author reported that such a person shows dependence on others, is egoistic and lacks 'objective interests'. People think of him as unreliable person.

The reliability of the scale was determined by (1) Test retest method and the product moment ‘r’ between the two testing was 0.75. (2) Internal consistency: The internal consistency of the scale was checked by calculating the co-efficient of correlations between total scores and scores on each of the five areas.

- **r values**
  - A. emotional instability 0.75
  - B. emotional regression 0.65
  - C. emotional maladjustment 0.58
  - D. personality disintegration 0.86
  - E. lack of independence 0.42

**Validity:** The scale was validated against external criteria i.e. the Gha. Area of the adjustment inventory for college students by Sinha and Singh. The inventory has ‘Gha’, area measuring emotional adjustment of college students. Product moment correlation obtained between total scores on all twenty-one ‘Gha’, items and total scores on EMS was 0.64.
All the scales were translated to regional language (Kannada) with the help of linguistics experts, Karnataka University, Dharwad. Then the reliability and validity were also worked out for the translated forms.

3.9 Pilot Study

All the above measures have been translated to Kannada to suit the needs of Kannada medium students. Similarly some scales which were in Hindi were translated to English and Kannada.

Prior to the final administration of the scales on the main sample under study, a pilot study has been conducted to test the suitability of all the five measures and re-established the reliability and validity. The pilot study included the composite sample of 90 subjects. The obtained Split-half reliability and Concurrent validity for the pilot sample is presented in Appendices B₁ and B₂ respectively. All the obtained correlation coefficients state that five measures are highly valid and applicable to the sample, which is being studied.
3.10 Data Collection

The list of colleges having Pre-university I and II courses was collected from the PU Board, Dharwad. Some colleges selected at random Karnataka College, Janata Shikshan Samiti College and Kittle College of Dharwad city. Before contacting the students the investigator took the prior permission from heads of all colleges. Then primary data was collected by administering the measures on 900 and above students from three faculties Science Arts and Commerce of PUC I and II. Apart from the responses to the scales self-confidence, self-efficacy, stress, parent-child relationship and emotional maturity, some other information regarding personal and demographic variables like age, sex, order of birth, number of siblings, health, exercise, hobbies, type of family, academic achievement, primary education and stay etc., included in the bio-data sheet, were also collected along with all the measures.

3.10.1 Inclusion and Exclusion Criteria:

Inclusion:

a) Those adolescents having both the parents.

b) Adolescents studying in Pre university level.

c) Adolescents of both the sexes.

d) Adolescents who were willing to participate in the study.
e) Those who answered for all items of all scales.

Exclusion:

a) Adolescents who were not having both the parents and single parent also.

b) No other adolescents other than Pre university classes

c) Those who were not willing to participate

d) Incomplete response sheets.

3.11 Data Procession

The data collected were scrutinized, coded, scored and then retained only 567 data out of more than 900 responses sheets.

3.11.1 Scrutinizing

The responses given by each student is carefully scrutinized for wrong markings, omissions and commissions. The response sheets, which are complete in all respects, are retained and the rest were rejected.

3.11.2 Scoring

All the scale response sheets were scored according to the instructions provided by the respective scale constructors.
3.11.2.1. Self-Confidence

The inventory was scored manually. A score of one was awarded for a response indicative of lack of self-confidence i.e., for saying 'No' response to item numbers 2,7,23,31,40,41,43,44,45,53,54,55, and saying 'yes' to right response to the rest of the items. Hence the lower the score, higher would be the level of self-confidence and vice-versa.

3.11.2.2 Self-efficacy

This scale contains 10 items with 4 possible responses, i.e., Not at all True, Hardly True, Almost True, and Very True. And the weightage for each of the responses ranges from 1 to 4, i.e., Not at all true=1, Hardly True=2, Almost True=3, Very True=4. The composite self-efficacy score is obtained by adding scores of the subject for each item. The maximum possible score is 40 and the minimum is 1.

3.11.2.3 Stress

The response alternatives a, b, c, and d i.e., a=no irritation/tension/stress, b=low irritation/tension/stress, c=moderate irritation/tension/stress and d=severe irritation/tension/stress. These alternatives in this scale are scored
as 0, 1, 2 and 3 respectively. The respondent's score was the sum of these weight ages which an adolescent gets on all the items. Minimum obtainable score is zero and maximum is 180.

3.11.2.4 Parent-Child Relationship

The Yes-No response categories are provided and are summed up to yield total scores for each sub scale assigning 1 and 0 marks respectively i.e., 1,4,7,10,12,13,16,19,22,25,31,34,36,37,40,42,43,46,48,49,52,54,55 and 60, but in case of negative items i.e., 2,3,5,6,8,9,11,14,15,17,18,20,21,23,24,26,27,28,29,30,32,33,35,38,39,41,44,45,47,50,51,53,56,57,58, and 59, the order of scoring was reversed. Thus all six dimensions and overall total scores were obtained for each respondent. The same procedure is done for F and M Forms.

3.11.2.5 Emotional Maturity

The scale is a 5-point scale with 48 items, where subjects are provided with 5 alternatives to choose from i.e., very much, much, undecided, probably, never. The weight age of marks for each item ranges from 5 to 1, i.e., very much=5, much=4, undecided=3, probably=2, never=1. The
maximum possible score in this scale is 240 and minimum is 48. The lesser the score on the scale, greater is the degree of emotional maturity.

This scale consists of five dimensions, i.e., Emotional instability, Emotional Regression, Social maladjustment, Personality disintegration and Lack of independence. The dimension wise scores are obtained by adding the scores of all the items constituting each dimension. The total score for this scale is calculated by adding the scores of all the five dimensions. All the raw scores thus obtained are transformed into standard (T) scores. (Appendices C3 and C9).

3.12 Analyses of Results

3.12.1 Frequency Distribution:

The obtained raw scores for all the scales used in the study were first transformed to standard (T) scores. Frequency distribution is drawn for the standard scores of variables, self-confidence, self-efficacy and stress, parent-child relationship and emotional maturity of adolescents.
3.12.2 Statistical Techniques:

The following techniques are applied to analyze the scores and verify the main as well as specific hypotheses derived from them.

(1) MANOVA

(2) ANOVA

(3) Multiple comparison Scheffe's test

(4) Step-wise Multiple Regression Analysis

MANOVA, ANOVA, Multiple comparison Scheffe’s test and Step-wise Multiple Regression Analysis are done with the use of SPSS Package.

3.12.2.1 MANOVA

MANOVA programme can be applied as a Multiple Multivariate Analysis of Variance to check the significance of difference, if any among multiple independent and dependent (which are not independent of each other) variables.

This test of significance will result in Wilk’s Lambda ($\lambda$) along with Rao’s corresponding approximate ‘F’ test to verify $H_{a_1}$ i.e. : Children of different level of parent-child relationship and emotional maturity differ significantly from one another in their self-confidence, self-efficacy and stress.
3.12.2.2 Univariate ‘F’ Test (ANOVA)

The statistical technique of Analysis of Variance makes a single overall decisions to whether a significant difference is present among three or more samples.

The ANOVA is applied in the present study to verify Ha_{1,1} i.e Adolescent children with varying level of Parent-child relationship(Dimension wise and Overall) differ significantly from one another in their self-confidence to Ha_{1,2,3} i.e. Adolescent children with varying level of Emotional maturity(Dimension wise and Overall) differ significantly from one another in their stress.

3.12.2.3 Scheffe’s Test

The statistical technique of Scheffe’s test is applied to verify the specific hypotheses Ha_{1,2,11} to Ha_{1,2,3,3} i.e. the difference between groups on the dependent variables in all the possible combinations in relation to Parent-child relationship and Emotional maturity.
3.8.2.4 Stepwise Multiple Regression Analysis *

In order to determine the contribution of multiple predictors on single criteria, the Stepwise Multiple Regression Technique is applied. In this technique, the regression of dependent variables (Y1, Y2 and Y3) on all the independent variables (X1 to X2) is calculated. In the present study this technique is applied to verify the hypotheses Ha 2.1 to Ha 2.3 i.e. to study the significance of contribution of the various demographic factors on self-confidence, self-efficacy and stress of adolescents separately. The outcome of this analysis helps to identify the factors that would significantly contribute to all the dependent variables.

* The variable that explains the greatest amount of variance in the dependent variable will enter first; the variable that explains the greatest amount of variance in conjunction with the first will enter second and so on.... In other words, the variable that explains the greatest amount of variance unexplained by the variable already in the equation enter the equation at each step. And one or more of the variables may never be entered into the regression equation if the statistical criterion is not met. (Normann H. Nie et al (1975) SPSS, 2nd Edition. New York: Mc Graw Hill Co., p.345)