CHAPTER – 3

RESEARCH METHODOLOGY

The present study is designed to gain an insight on certain important psychological aspects such as Aggression and Academic Achievement of urban and rural college students. The current chapter details about research methodology used to arrive at desired results. This chapter includes in detail about research design, sampling, variables considered, hypothesis formulation, measures and statistical testing tools. The chapter provides details of sample selected from given population, procedure for data collection as well as proposed statistical analyses of present research.

The objective of the current chapter is to provide detail understanding of all the previously discussed issues and processes. This chapter provides a broad framework and an outline for the analysis of data for thesis.

3.1 VARIABLES UNDER THE STUDY

The present study attempts to investigate certain important psychological aspects of graduate students of rural and urban area. Variables that are examined in the study are Aggression which is measured with the help of The J.C. Pati Scales of Psychological.

Independent variables (IV) - Area of residence (urban and rural) and Gender Dependent variables (DV) - 1) Aggression 2) Academic Achievement

3.2 OPERATIONAL DEFINITIONS OF VARIABLES

This part produces the operational definitions for variables.
3.2.1 Aggression:

This section covers a brief description of Aggression. Let us first have a look at the basic principles of Aggression and Academic Achievement and Urban and Rural area we go about finding out the relation between them in the context of students.

There are many possible ways of defining and interpreting “Aggression”, dependent on which method is used. Baron claims that “hostility is a form of behavior with the intention of destruction or injuring an additional source of revenue organism who is moved to steer clear of such behaviour”. Aggression may be looked as a form of behavior; hence, in the daily life of human being aggressive behavior is a common thing. As a result, aggression emerges naturally in the social, political and religious context. Generally, to predominate each other people behave aggressively. Aggressive behavior has become a research and public policy priority, owing to its consequences for children as well as youth’s development and academic performance and outcomes.

An aggression behaviour is usually learned much like other forms of social behavior. It means, there is no inborn aggressiveness in human beings, but the aggressive responses of human being are acquired similar to other complex forms of social behavior. Bandura rightly points out this phenomenon when he claims that aggressive behaviours are learned either directly or by observing the behavior of others in the society. Berkowitz puts forth aggression as act with intention directed to harm others. Conceptualizing aggression in such terms helps to capture effectively its essence, even though it is not possible to present this form in precise manner in real contexts. Dollard and his mates claim that any aggressive behavior aims towards the injury of the person against whom he is motivated. They believe that
aggression is the action which has definite aim that inflict others rather than being noxious stimuli. However, one cannot find similarity in the exact nature of this response from one occasion to the next. Anticipations of penalty can be provoked to the indirect forms of aggression and can never think of direct attack on the target. According to the researchers, many aggressive forms were theoretically interchangeable.

In some cases such as an accidental harms, these are not aggressive behaviours as they are not purposeful actions. Likewise, the pain aroused in sexual acts cannot provoke to inact for the pleasure like the dental procedure. In the same way, Baumeister claims that “the soreness manage in sexual’ masochism is not hostile since the casualty is not enthused to keep away from it – undeniably; the pain is energetically importune in the overhaul of a superior objective” (1989). Violent acts of aggression are intended to do extreme harm which may also result in death. All violent actions can be categorized as the results of aggression, but all aggressive behaviours are not necessarily to be violent.

The simplest definition of “aggression,” and the one favored by those with a learning theory or behaviorist approach, is that it is any behavior that hurts others.

R. A. Baron and D. Byrne have suggested that aggression behaviors motivated out of good always try to avoid harm or injury to another living being. Aggression behaviours are expressed in terms of anger, jealousy, hated etc. and the person motivated with such patterns wishes to injure others. The aggressive behaviors are directed to humiliate, dominate or put another person down instead of expressing one’s honest emotions or thoughts.
Aggression distinction of two types antisocial aggression and prosocial aggression. Many aggressive acts are actually dictated by social norms and are therefore described as pro-social. These pro-social behaviours are acts of law enforcement, correct parental control, and following the orders of commanders in wartime. Unprovoked criminal acts that hurt others violate social norms and thus are antisocial acts.

Some aggressive acts that fall between pro-social and antisocial right be labeled sanctioned aggression. These actions are not needed in society, but they are bound in their limits; and they can never go beyond accepted moral standards. It can be witnessed in a disobedient player who is trained by a coach with specific disciplines by benching him or her.

Socio-biologists like Buss, and Buss & Kenrick argue that evolution can be seen in the aspects of social behavior. They go a step further and include aggression also in the category of evolution. Because aggression aids males in obtaining desirable mates and aids females in protecting their young, principles of natural selection should operate over time to favor certain forms of aggression.

The Nature of Human aggression

Most of us are familiar with acts of aggression, either through personal experience or through the mass media. A report in the July 11, 1973, New York Times indicated that 34 percent of adult women in one congressional district of New York city were the victims of serous crimes in 1972.

- In order to begin the journey toward the examination of the diverse behaviors called aggression.
• Social psychologists have analyzed three primary ideas about aggressions root cause.

• There is an inborn aggressive drive.

• Aggression is a natural response to frustrating experiences, and

• Aggressive behavior like other social behaviors is learned. Because different kinds of aggression (for example hostile and instrumental) may well have different causes, a combination of these major ideas about the nature of aggression could well be valid.

According to culture females are less aggressive than males. Adults are more aggressive than other. Aggression as a Drive Response to frustration (e.g. Bandura & Walters, 1963, Berkowitz 1969) frustration aggression hypothesis as originally formulated, was oversimplified and required modification (e.g. Bandura & Walters 1963; Berkowitz, 1969) changes had to be made for two main response (1) while aggression often may follow frustration. (2) It has been shown that aggressive reactions can occur without prior frustration for ex:- unfrustrated preschool children observed an adult model physically, aggress against a Baba doll.

AGGRESSIVE BEHAVIOR:

Any disturbing behavior which adversely affects another person can be called as aggressive behavior. Such aggressive behaviours are the acts like giving a penname to other or verbal taunting. Aggressive behaviour know how to be both shortest behaviour which include the acts like yelling, destroying personal property, insulting, or indirect behaviour such as gossiping, ignoring, spreading false rumours.
In his interview for CNN, Doug Lowen-stein, president of the Interactive Digital Software Association, believes that people, especially politicians, have overblown and overstated widely the issues of aggressive behaviour who does not even know the industry very well. According to him, violent video games never motivate the children to behave aggressively. He also claims that there is no evidence of aggressive behavior resulted out of video games.

Learning to be Aggressive: A main mechanism that determines human aggressive behavior is past learning (Miles & Carey, 1997). A newborn infant expresses aggressive feelings quite impulsively. Whenever it is the least bit frustrated, whenever it is denied anything it wants, it cries in outrage, flails its arms, and strikes out at anything within range. By the time the individual is an adult, however, these angry impulses and aggressive reactions are under control most of the time. This development is primarily due to learning. We learn habits of behaving aggressively in some situations and suppressing anger in others, of aggressing against some kinds of people (such as police officers), and of responding to some kinds of frustration and not to others. These habits are crucial to our control of our own aggressive behavior.

Imitation: A form of learning involving thinking, feeling, or behaving in a way that matches the thoughts, feelings and behaviors of another person.

Albert Bandura and his coworkers illustrated imitative learning of aggressive behaviors. They did an experiment on children who watched an adult while playing with Tinker toys and a Bobo doll, a 5-foot-tall inflated plastic doll. They watched the scene in which the adult began to assemble the Tinker toys for about a minute and then turned his attention to the doll. He picked up the doll, punched it, sat on it, hit it
with a mallet, tossed it in the air, and kicked it about the room. His shouting and dialogues showed his violence and aggression. He intends to give shock, hit it as well as pow it. The scenario continued for the next 9 minutes, with the child watching. In the next situation, the adult worked quietly with the Tinkertoys and ignored the doll. Sometime later, each child was frustrated mildly and then left alone for 20 minutes with a numbers of toys, including a 3-foot-tall Babo doll. They tended to imitate many of the actions of the adult. They punched, kicked, and hammered the doll and uttered aggressive comments similar to those expressed by the aggressive adult. The children who had witnessed the adult working quietly on the Tinker toys play less aggressively.

The key theoretical notion in these experiments is that children learn specific aggressive responses by observing others perform them. Such vicarious learning is likely to increase when the adult’s behavior is reinforced and when the situation promotes identification with the adult model. As predicted, in the Bandura experiments, more imitative aggression occurred when (a) the model was rewarded, (b) the model was of the same sex as the child, and (c) the model had had a previous nurturant relationship with the child, such as being a friend or a teacher of the child (Bandura, Ross, & Ross, 1963).

Would the children in this situation, who learned to attack a certain type of doll, also attack the same kind of doll in a different situation – and perhaps a different kind of doll as well? Just how far this imitative learning would extend – Would they also punch their siblings?... is not clear; however, that with repeated exposure to aggression, these children might be more likely to react aggressively than was true previously.

It is noted that a child never imitate another person without any intention; and therefore it is logical that they imitate some people more
than others. The child always imitates the person who is more important, powerful, successful, and liked the other people. It is also observed that a child imitates a person who is more likely to be in their company or to whom they always see. Obviously, parents are one who are always near to them, hence they are the primary model for a child during the early years.

A second mechanism by which aggression is learned is reinforcement. It is the tendency of human being that when he finds a particular behavior which is rewarded, he is more likely to repeat that behavior in the future; when it is punished, he is less likely to repeat it. For example, a boy comes home in tears after being knocked down by another boy at school. His father chastises him for not hitting the boy back. The next time the boy is attacked, he does fight back, and even though he comes home with a bloody nose, his father praises him. This is one way that children learn the use of retaliatory aggression. In one study, the participants were orally motivated to shock a confederate. Other participants in a control group shocked than did the non-reinforced participants. Aggressive acts are, to a major extent, learned responses, and reinforcement is a major facilitator of aggression.

Because parents are both the major source of reinforcement and the chief object of imitation, a child’s future aggressive behavior depends greatly how the parents treat the child and on how the parents themselves behave. This joint dependence on parents for reinforcement and imitation produces an interesting consequence. Punishing a child for acting aggressively might be considered an effective method of teaching the child not to be aggressive, but it often produces the opposite effect. A child who is punished for fighting does tend to be less aggressive – at home. Home is where the risk of punishment is greatest and therefore where the threat of punishment has the strongest inhibiting effect. Unfortunately, the situation is usually quite different
when this child is out of the home. A child who is punished severely toward him for being aggressive at home tends to be more aggressive outside the home.

The explanation for this effect is that the child imitates the parents’ aggressive behavior. When he is in a situation in which he has the upper hand, he acts the way his parents do toward him. They are aggressive and so is he. The punishment teaches him not to be aggressive at home, but it also teaches him that aggression is acceptable if he can get away with it. Regardless of what parents hope, children will continue to imitate the actions of their parents; and even try to follow their advice.

The present discussion will examine aggression primarily from a social perspective. Aggression will be viewed as a form of social behavior involving direct or indirect interaction between two or more persons. This will be the case for two important reasons. As will become increasingly apparent in succeeding chapters, the most important determinants of aggression have generally proved to be social in nature. Aggression, at least in the case of human beings, stems primarily from the words, deeds, presence, and even appearance of other persons (Latane & Richardson, 1992). Full understanding of such behavior, then, requires knowledge of the social situations and factors that both facilitate and inhibit its occurrence. This is not to say, of course, that other factors play no part in its occurrence. On the contrary, many additional, nonsocial variables (e.g., changes in hormonal balance) seem to exert important effects upon aggression. However, according to the definition, the human aggressive behavior develops within social interaction. For this reason, then, it seems both appropriate and useful to examine it primarily from this general perspective.
In the view of the present authors, the social perspective on human aggression also has proved to be more fruitful and informative than other approaches in providing us with an understanding of what we might call “normal aggression.” While investigations conducted from a clinical or psychiatric perspective have yielded much information concerning aggression by seriously disturbed individuals, they have generally told us little about the conditions under which seemingly “normal” persons will engage in dangerous assaults against others. Baron. Robert A.(1994)

**Aggression Inventory by(Dr. G.C.Pati) :-**

“Aggression behaviors directed towards the goal harming or injuring another living being who is motivated to avoid such treatment” (Baron R.A. and D. Byrne 1987).

### 3.2.2 Academic Achievement:

“Academic achievement is examination mark of students.”

Education plays a vital role in building a society. A modern society cannot achieve its aims of without fully harnessing the talents of its citizens. Educationists thus strive to develop fully the intellectual potential of the students and make efforts to see that their potentialities are fully realized and channelized for the benefit of the individuals and that of the society.

The scientists like Stanley Ross, Frumar and Frumar and Frazen feel that the over-achievement phenomenon is, logically spurious and meaningless, since no one can operate above one’s potentiality level, from which quite often the standard of one’s expected performance is derived. However they assert that under-achievement is indicative of one’s ability. On accept the verdict and the theoretical definition of the
under-achievement concept which is proportionate to one’s actual performance, we are justified to ask from which level the expected performance comes.

Taylor states that the value the student places upon his own worth effects his academic achievement. Very low level of expectation tends to make a pupil accept very low standard of achievement, very high expectations lead to discouragement and diminished effort because he feels he cannot live up to what is required of him. To be practical, the level of expectation needs to be geared to suit each individual capability.

Numerous transformations are being observed in association, curriculum, education schemes etc., it is important to search for methodical and up to date information on the noteworthy associates of a scholar accomplishment.

The major significant conclusions of any didactic set-up is accomplishment of the apprentices. Depending on the stage of achievement, individual are characterized as high, average and low achievers. Efficiency of some enlightening organization is estimate by the amount the scholar concerned inside the organization attain, whether it be in cognitive, conative or psychomotor area. In all-purpose conditions accomplishment refers to the educational or educational attainment of the scholar at the end of an instructive programme. To make the most of the accomplishment inside a agreed set-up of educationist. Many studies in different samples point out, that the educational accomplishment is reliant on variables similar to set-up of educational institution, its association, socio-economic position of scholars, their well-corrected behaviours.
Motivational concerns would be addressed in terms of academic achievements stipulation we be to request, for illustration, why a number of undergraduate absolute everyday jobs regardless of mammoth complicatedness, at the same time as others give up at the smallest amount irritation, or why a quantity of apprentice set such romantically far above the ground goals for themselves so as to breakdown is bound to occur.

Academic achievement is related to the acquisition of principles and generalizations and the capacity to work with full potentials, assured manipulations of objects, signs and thoughts. Evaluation of educational performance has been largely confirmed to the evaluation in terms of information, knowledge and understanding. It is universally accepted that the acquisition of factual data is not an end in itself but an individual who has received education should show evidence of having understood them. But for obvious reasons the examinations are largely confirmed to the measurement of the amount of information which students have acquired.

“educational accomplishment is normally deliberate by assessment or nonstop evaluation but readily obtainable is no universal traditionalism on how it is most excellent experienced or which characteristic is for the most part important bureaucratic acquaintance such as skill or declarative in sequence such as evidence.” (Annie Wardt). Educational accomplishment is examination mark of students. Generally, it is seen that human behavior is always impact on academic achievement. A different studies showed that poor academics predicted bad behavior, which hampered academic progress.

Social cognitive theory deals with the different arenas of functioning of human being as choosing profession, managerial performance, games, psychological and physical health. Social
cognitive theory is widely used by the proponents who takes interests in perceptions of classroom motivation, learning, and achievement.

According to Pintrich and Zusho (2002), academic inspiration refers to interior procedures that bring about and maintain performance intended at accomplishing explicit educational objectives.

These studies suggest that academic engagement may not only predict students' academic learning, school grades, and standardized achievement test scores in the short term, but it also gives outline of school attendance of students, maintenance commencement, and educational flexibility in the long term. Indeed, the extent to which adolescents succeed in school and academics has important implications for their ultimate educational and occupational success (Bouchey, Shoulberg, Jodl, & Eccles, 2010). Adolescence seems to finish their schooling with higher levels of achievement and also wishes to attend and complete college as compared to their classmates who have lower levels of achievement. Second, the high school examination results show after 8 achievement in the global world's market in terms of higher wages. In the end, the bottom stages of education and skills are related with inferior levels of financial accomplishment, which covers living in deficiency and receiving administrative help. It means that adolescents' educational accomplishment is significant because it provokes their success in later life. Therefore, it is crucial to know the educational accomplishments of adolescents, and the elements influencing their academic achievement.

The term academic underachievement is being used to indicate educational presentation which be under normative era height. Therefore, discrepant as of one's universal cognitive capability cannot be used in the assessment of education disabilities. So many behavioural patterns have been linked to academic under-attainment.
The instances of this can be seen in the explorations that have constantly exposed that violent behaviour and former structure of inconsiderate behavior show contrary relationships with educational accomplishment.

Learning of externalizing effort encompass future so as to aggression in early years be based on the underachievement chiefly as of their relations by way of concentration trouble.

Several factors can affect the educational accomplishment of adolescents, including cultural familiarity with the educational system, linguistic proficiency, socioeconomic resources, parental involvement in education, parental anticipations and objectives for their kids's schooling, parental autonomy support, family obligation, academic self-concept, academic motivation, and teacher autonomy support. Among the variables that affect the achievement, the last three variables viz. academic self-concept, academic motivation, and teacher autonomy support appears to be the most probable in directing influence by the regular classroom teacher.

To sum up, adolescents' educational accomplishment is significant because it motivates their afterwards success in life. Hence, it is imperative to become conscious the university realization of adolescents, in addition to the elements that influence their academic accomplishment.

3.2.3 Rural area:

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"Rural area is a place where human relationship is primarily in the rural impact and environment" (Bertain Alvin L. 1958).
“Rural people are very frank, open-minded, and genuine; the score the artificiality of many phases of city urban life” (Bogardus 1929).

“The Prime objective of rural sociology should be to make a scientific, systematic and comprehensive study of the rural social organization of its structure, functions and objective tendencies of development and on the basis of such study to discover the laws of its development” (Desai A.R. 80)

The term village is applied to the common residential place of farmers. According to Bertain Alvin L.1958. Rural area is a place where human relationships are primarily on the basis & rural impact and environment. The people in rural areas are very frank, open, minded, genuine, and simple; they scorn the artificiality, found in city life. They immediately depend on agriculture. Their needs and desires are limited, resulting in having more adjustment level and less aggression level. Desai A.R. 1973 they indicate that village people are very peaceful, secure, and co-operative Agriculture and the collecting enterprises are the bases of the rural economy farmer and countrymen are almost synonymous terms.

Besides these features, the villagers also demonstrate a homogeneity of population due to which they do not frequently come into conflict with each other and maintain mutual intimacy and harmony characteristics of villages as follows. The village satisfies all their needs in the villages.

Elements influencing village community in less population village in establishment of markets increase in the number of shops, where new commodities are available, the opening of school and college, increase in the number of those belonging to the middle class, and the arrangement of police and other security measures. The social and
economic life in a village where persons are predominantly agriculturists differs from the social and economic life of a village inhabited by weavers. Their economic life is more static. Their social life is more organized and they attach much importance to religion in India. In Indian villages where social organization is based upon the caste system are easily distinguishable from the villages inhabited by tribes whose social organization is bottom on top of the combined relations organization. Dormitories are a special feature of the tribal villages based on joint family system. In these people there is more intense community feeling. The head of the biggest joint family is the ruler of the village.

3.2.4 Urban area:

City as a place which has become so large that people no longer know each other (Sombart 1958) ‘cities are people, churches, banks, politics, building, traffic and sewage. There are everything we are the newest cities are old in human experience and oldest are constantly renewed’ (Robert B. Mitchell 1965)

Nature of Urban area: -

“The city……encourages impersonal rather than personal relationship” (Gist and Helbert). Life of urban people is artificial, secondary and heterogeneous. Because of increasing industrialization, there is so much heat in environment, which affects their aggression.

Usually city is much larger place where no longer know each other. “cities are people, churches, banks, politics, building, traffic and sewage. There are everything we are the newest cities are old in human experience and oldest are constantly rehabilitated” (Mitchell 45).

Urban community is different from rural community by the
help of rural community we consider the urban community some of the traits of urban community as bellows:-

**More population:** - It is the most important trait of urban community. Urban population is more and so large than rural one. In cities, people are not in touch to each other and so they cannot make relations. It results in lack of residency increasing number of dirty areas, lack of good health, and child-crime etc.

**Social heterogeneity:** - It is another important trait of urban community, social heterogeneity means that there are people of different castes, religions, colors, and sects, with many views, approaches, and customs and traditions. It results in differentiation among those urban people.

**Secondary Relationship:** Because of the vastness of population urban people give importance to secondary relations. They have less familiarity.

**Individualism:** Urban people are more individualistic than are more individualistic than rural people since they give importance to individual or personal values, needs, and desires.

**Competition:** Due to increasing population, urban people face the problem of competition in every sphere of life. So they become more and more aggressive and less and less adjustable.

**Control of Secondary Groups** : - Urban people cannot be controlled by family, school or such groups, such as police, courts, and prisons.

**Social Mobility** : - It is another important trait of urban community. Urban people have an extreme social mobility due to their attachment and devotion to work they do rather than to their religious
beliefs, social order, colour.

**Voluntary Association:** - People in urban areas are largely of voluntary nature. They participate in about all the social programmers, and are ready to do something better for their societies. So there develops voluntary association among them, and they become more less adjustable than rural people.

**Complexity of life:** - Their life is very complex because of differentiation in their casts, religions and sets. There is no any impact of these factors on them. These we find only complexities in their life.

**Artificiality:** - life of urban people is largely artificial, unlike rural people. They lack natural surrounding and environment, which result in artificiality of everyday life.

**Psychic conflicts:** - In city areas, there is availability of everything but with differentiation. In this case, poor people become more jealous and aggressive towards rich people because rich people possess these facilities, which they (poor) don't. It results in psychic conflicts and rebellion among poor people, especially slum-area people. Thus poor people are more aggressive and less adjustable than rich people. So such people are unstable.

**Nuclear family:** - In cities, mostly nuclear or divided families are found. Boys and girls in such families don't have any kind of control by their elders. So they become aggressive.

Finally, students of urban areas will not show significantly more aggressive behavior than students belonged to rural background. The diverse treatment in sexual category, educational accomplishment and residential background provides a new dimension in understanding aggression in rural and urban boys and girls.
McCormick (1932) found that the urban/rural background had no bearing on grades. Sander, Osborn and Green (1955) observed that urban students were found better than rural student. Nicholas and Davis (1961) have found that achievers tend to come from urban background than rural background. Edington and Martellaro (1984) revealed no gap between rural and urban students. Ward and Murray (1985) found that student in rural area performed as well as those in urban area. Monk and Haller (1986) found that students from rural area achieved as well as students from urban area. Edington and Khoehler (1987) reported that the rural students are achieving more inspirate of greater obstacles. Young (1998) found that rural students were disadvantaged in terms of their achievement. Roscigno and Crowley (2001) reported that the academic performance of rural children typically lags behind that of urban children. Howley (2002) reported readily accessible is no distinction stuck between pastoral and municipal teaching. Sex and Academic achievement:

Various revise encompass exist behaviour in order in the direction of scrutinize the association between male and female sexes and academic achievement in India. The following available research evidence showed that sex has an impact on academic achievement of the pupils: Sahai (1985) showed that there is sex difference in academic achievement. Raghawan (1986) reported that males were found to have significantly higher academic achievement than females. Chakrabarti (1988) claimed that gender difference cannot be obsessed in academic achievement. Deve (1990) found that girls had a significantly higher academic achievement than boys. Tinku and Biswas (1994) found that girls are more involved in their studies than boys and get more marks. Suneeta and Mayuri (2000) revealed negative noteworthy dissimilarity was experiential among young man and young woman in school reaching. Meena (2000)
indicated significant difference between males and females. Begum and Phukan (2001) noted that their studies showed differences in correlation between men and women in academic achievement. Nagaraju et al. (2003) found that women were significantly higher educational accomplishment than men. Panigrahi (2005) maintains that there is no prominent dissimilarity between men and women with relation to educational accomplishments. Varte, Zokaitluangi and Lalhunlawma believed that there is no gender dissimilarities.

**Area of residence and Academic Achievement:**

Educational research has examined rural/urban differences in academic achievement in India and some of these studies are: Lalithama (1975) reported that the achievement of the pupils from urban area was better than the achievement of the rural area. Pandey (1981) has reported that urban atmosphere was more conducive to achievement than rural environment. Mishra (1986) reported that the achievement of the pupils from urban areas was better than the achievement of pupils from rural areas. Joshi (1988) found that there become visible to be a linear bond stuck between IQ as well as scholastic routine which held well designed for both rural and urban students. Garg, Chaturvedi and Seema (1992) found that there appeared to be a linear relationship between IQ and academic performance which held good for both rural and urban students. Ganga (1993) and Nagaraju et al. (2003) reported that the achievement of the pupils from urban areas was better than the achievement of pupils from rural areas. Usha (2007) revealed that urban pupils were found superior to rural pupils in their achievement. Sangeeta and Surekha (2008) found that achievement of the pupils from urban areas were better than the achievement of pupils from rural areas. Pushpalata, Dhanda and Singh (2009) found that urban area
surpassed children from rural area in intelligence. Shobhna Joshi and Rekha Srivastava (2009) reported that the achievement of the pupils from urban areas was better than the achievement of pupils from rural areas.

### 3.3 RESEARCH DESIGN

This is the most critical part of the methodology and detail about research design adopted for this study has been presented. According to Kothari the research design must be prepared with conceptual structure through which the research can be undertaken. The research design will help in the study to be as competent as probable surrendering maximal probable in sequence. It denotes that the meaning of investigation intend is to supply for the compilation of applicable confirmation with negligible outgoings of effort, occasion and finance.

According to Ahuja Ram (2003) Research Design is a blueprint of the research. Any investigation is suitable while its findings are correct. It is dependable while the conclusions are replicateable. Reliability and validity of the research require the planning of inquiry, i.e., the detailed strategy of how the research will be conducted. A good research depends on two aspects of its design: first, mentioning what one wants to ascertain, i.e., properly posing the problem or properly phrasing the issue(s) to be studied or logical structuring of interrogation; and second, deciding how to do it, i.e., collecting data through scientific and appropriate methods, using effective techniques of data analysis and rational and meaningful deduction(s). In short, the designing or process of research is concerned with making controlled scientific inquiry.

**Meaning of research design:**
The term 'design' means "drawing an outline" or planning or arranging details. It is a process of making decisions before the situation arises in which the decision has to be conducted. 'Research design' is organizing a strategy of conduction of research. It predetermines as what is to be observed, how it is to be observed, why it is to be observed, when it is to be observed, where it is to be observed, how to record observations, how to analyze/interpret observations, and how to generalize the findings. Thus, research design is a detailed plan of how the goals of research will be achieved.

Suppose we want to study the role of political elite in the development of Indian society. Here what do we specifically want to find out? The main objectives are to determine: what were the goals set by the political elite in economic, social, political and cultural areas; what was their level of commitment to development at national and regional levels; whether they were caste, religion or region oriented; what barriers did they face; what measures did they take in removing these barriers; and so on.

Related with these objectives are the questions: Who are the political elite? What is development? What were the types of political elite we had in the first two decades after independence? How the nature of elite who emerged between third and thirteenth parliamentary elections changed? What were their interests, ideologies, commitments and loyalties? How were their methods of working affected by parochial (narrow) and national perspectives? Whom to include in the sample for study? What should be the size of the sample? What was elites' contribution to community/society as power-holders? How to collect information on charges of corruption against them? These are the kinds of questions that need to be answered through research. The answers to all these questions will depend on planning every step of data
collection, processing, and analysis in advance based on scientific objectivity and integrity.

According to Henry Manheim (1977:140) research design not only anticipates and specifies the seemingly countless decisions connected with carrying out data collection, processing and analysis but it presents a logical basis for these decisions.

William Zikmund (1988:41) has described research design as "a master plan specifying the methods and procedures for collecting and analyzing the needed information".

Martin Bulmer (1974:86) has said that research design is “the specification of the problem, conceptual definitions, derivation of hypotheses to test, and defining of population to be studied”.

Ackoff Russell (1961:52) maintains that research design is "planning various phases and procedures relating to the formulation of research efforts". He further illustrates it as "an arrangement of the essential conditions for collection and analysis of data in a form that aims at combining relevance to research purpose with economy in the procedure".

FUNCTIONS/GOALS OF RESEARCH DESIGN

Black and Champion (1976:76-77) have given three important functions of research design. These are described as under:

1. It provides blueprint

Just as a house-builder faces many problems without drawings and plans, i.e., where to place foundation, what materials are required, how many workers are required, how many rooms are to be constructed, how many doors and windows are needed in a room, on
which side is the door/window to be given, how big is to be the door/window and so on, similarly a researcher faces many problems like what sample is to be taken, what is to be asked, what method of data collection is to be used, and so forth. Research plan minimizes all these problems of the researchers because all decisions are taken beforehand.

2. It limits (dictates) boundaries of research activity

This refers to determining whether only one (or selected) cause out of many causes is to be examined, only one (or a few selected) hypothesis is to be tested, only attitudes of students of one educational institution are to be studied, and so on. Since the objectives are clear and the structure is also provided, systematic investigation is possible.

3. It enables investigation to anticipate potential problems

The researcher studies available (other) literature and learns about new/alternative approaches, e.g., he gets an estimate of personnel required as investigator(s), cost, possible measurements of problems, and so forth.

Berger et al (1989) have suggested following five functions of designing research:

(1) It offers a guide that directs the research action, which reduces time and cost.

(2) It offers a systematic approach to the research operation, so that all steps are executed in the right sequence.

(3) It encourages coordination and effective organization.
(4) It helps in the use of resources effectively, avoiding errors and bias.

(5) It enables the researcher to control the research operation most effectively, when research investigators are employed.

Manheim (1977:142) has given following five goals of research design:

(1) To amass (collect) more and more evidence in support of a given hypothesis and eliminate alternative hypotheses.

(2) To make study, in so far as possible, replicable, i.e., worth repeating. This can be done by avoiding situations and procedures which are clearly unique.

(3) To associate variables with one another in such a way and give propositions in such a manner that it becomes possible to determine whether these are related or not with the desired results. Suppose we design a research project for studying the process and pattern of adjustment of retired people. We hypothesise that the pattern of adjustment depends upon factors such as the structure and size of family, completing social responsibilities of children's education and marriages before retirement, pension or Interest money received every month, nature and extent of help rendered to family in minor household chores, and attachment to new interests like social work, etc. Examining all these factors obviously will be important guides for the adjustment pattern of the retired people.

(4) To determine whether a pilot study needs to be undertaken for the future plans of the researcher.
(5) To plan such techniques for collecting the data that gathering useless and irrelevant facts may be kept to a minimum in the interests of economy of time and money.

CHARACTERISTICS OF RESEARCH DESIGN

The advantages of good designing of research can be achieved if more than one method of data collection is to be kept in mind, though this may increase the cost, time and complexity of the research. However, this is necessary because no one method can be perfect for data collection. Use of more than one method gives confidence to the researcher about reliability in his findings. Conventionally, the research is focused only on two types of variables, viz., dependent and independent.

In explanatory research, the independent variable explains the dependent variable.

In descriptive research also, relationship between these two types of variables are explained. But now, the trend is to deal simultaneously with multiple variables in explanatory research. For example, drug abuse among youngsters is now explained in terms of multiple variables like lack of parental control, Impact of friends, getting excess pocket money, curiosity, etc. It is now believed that explaining dependent variable in terms of only one independent variable will not be logical explanation. It will be inaccurate and incorrect information. Multivariate analysis, on the other hand, can yield more correct assessment of the phenomenon under study.

In the task of designing research, if the researcher gives importance to the following five factors, his analysis can prove to be logically sound:
1. Researcher should know how many different points in time the data are to be collected. Is all data to be collected essentially at one time or there has to be some time elapse between various stages of data collection? For example, in the study of offenders’ adjustment in prison, should questions relate to time totally spent in jail or should it be studied in different periods like, first three months, after spending one year, three years, five years, seven years, ten years, twelve years or more years. Will the period spent in jail affect the process of prisonisation?

2. Researchers should know how many research situations, i.e., individuals, groups, communities, organizations, etc., will be of his interest and how are these varied situations to be interrelated? Is one group, one community, one organization to be compared with other group, community or organization?

3. Does study involve change? What different time periods are to be used for collecting information? Say, should development of a village community be studied when poverty alleviation programmes like IRDP, Jawahar Rozgar Yojna GRY), etc., were implemented through bureaucratic decisions, or after introducing Panchayati Raj schemes, or after the empowerment of women in villages by reserving 33 per cent seats for them in panchayats?

4. Does research involve any comparisons? In such cases, since the data have to be collected from two different situations, the research has to be designed in a different way. For example, studying the pattern and magnitude of developing villages in three different situations in Rajasthan: one, where the government has initiated poverty alleviation programme aided by the World Bank project emphasizing on creating village development associations, common interest groups, income-generating activities, strengthening infrastructure and seeking help of
NGOs; two, where the government has initiated rural development programmes like IRDP, JRY, TRYSEM, etc.; and three, a tribal and a low-caste dominated village owning small lands and totally dependent on rain water for irrigation. In another comparative study of prisoners' adjustment in two different types of prisons----maximum security and minimum security (open) prisons--the research strategy has to be planned in relationship to structure and variations in facilities.

5. Lastly, the important question for the researcher is whether the research is descriptive, exploratory or explanatory, pure or applied? The difference in research design of different types of research is crucial.

**PHASES IN RESEARCH DESIGNING**

The research process proceeds in six phases as under:

1. Specifying the problem/topic to be studied.

2. Framing research design.

3. Planning a sample (probability or non-probability or combination of the two).

4. Collecting the data.

5. Analysing the data (editing, coding, processing, tabulating, etc.).

6. Preparing the report.

**Diagrammatically, these can be displayed as follows:**

Phases in Research Designing

Some scholars talk only of four phases in any research:
(i) problem-selection phase,

(ii) research design phase,

(iii) empirical phase, and

(iv) Interpretative phase.

The first phase starts with selecting the problem of study, describing its objectives, presenting a conceptual model of the phenomenon to be studied and forming propositions about the nature of phenomenon. The second phase includes planning, data collection method, classification, coding, tabulation and determining the sample of the respondents. The third phase is of collecting data, processing, tabulation, and determining methods of interpretation (logical reasoning, creative imagination or mathematical analysis). The fourth phase is of analysis, report writing, giving generalization or formulation of a theory. The four phases can be explained in a diagrammatical form as below:

These phases are functionally interrelated. In practice, sometimes, the afterwards phases are comprehensive prior to the previous ones. This is termed as presumptuous and backward linkage. The term presumptuous connection involves that the previous steps of study will authority the presently stages. For example, the objectives of investigation will have an impact on the selection of the sample which in turn will have the effect on planning the method of collecting data, on preparation of the questionnaire, and on actual data collection. The term rearward connection involves that the afterwards moves contain an pressure on the previous periods in the study procedure. For example, if the data are to be processed by computer, then coding needs are incorporated in the survey intend. Yet another example of rearward connection is the information that the 'action planner' will interpret the
account which must include certain pragmatic strategy to be adopted in future

We may further elaborate the research process by identifying eight steps (instead of four as mentioned above) in quantitative research:

Step 1: First comes specifying the problem/topic to be studied on the basis of one's interest and idea of research. The idea might come from a theory (say, Durkheim's theory of suicide and social integration), a sponsored research (say, problem of drug abuse sponsored by the Ministry of Welfare, Government of India, or education among SCs and STs sponsored by ICSSR, New Delhi), or one's own interest in specific field (say, Criminology, Military Sociology, Medical Sociology, Rural Sociology, Business Administration, etc.). The idea may be to determine the aspects of the phenomenon to test the validity of relationship between two or more variables.

In business research, instead of 'defining' the problem, it is to be 'discovered'. For example, the factory owner knows that the production and profits are declining but he may not be able to explain to the researcher as to what is to be inquired. As such, the researcher may often state the problem only in general terms. Gradually, during research, he may identify what is to be specifically investigated. For instance, the bread manufacturer only knows that his bread is not selling much. On his request, the researcher may think of studying consumer behaviour, i.e., whether the low sale is because of bad quality of the bread, size of the packet, high cost, lack of advertising, lack of information to consumer on the calorie content, and so on. Thus, precise character of the dilemma can not be originally able described.
Step 2: Then comes the question of stating the research objectives. These depend on whether the research is descriptive, exploratory, explanatory or experimental. Statement of objectives defines the category of knowledge that requires to be assembled. In other words, it determines the scope of the research.

Step 3: This is followed by specifying the concepts (say, in the study of drug abuse, concepts like, drug, drug abuse, narcotic drugs, withdrawal syndrome, etc.) and identifying variables (say, education, family structure, parental control, peers’ relations, etc.). This is followed by operationalising certain concepts which need to be measured. For example, in some researches, the concepts which need to be operationalised could be: concepts of ‘joint family’, ‘development’ (its indicators) ‘globalisation’, ‘violence against women’, ‘youth sub-culture’, and so on.

Step 4: Framing hypotheses makes the objectives of study as well as many concepts clear. The hypothesis is merely a statement pertaining to relationship between two variables which are further justifies with the help of the data.

Step 5: After the objectives are specified and hypotheses framed, the research design must be developed. It is specifying the methods and procedures for collecting and analysing the data, and planning the sample. The choice of selecting research method depends upon the strengths or weaknesses of the method in relationship to the goals of study. In some problems where some variables are to be controlled to study the effect of some specific variable, experimental method may be more appropriate. In the study of problem like rehabilitation of war widows, survey method may be more appropriate where data can be collected through questionnaire or a schedule in three or four selected states. Through content analysis, one might examine communal riots
reported in newspapers, magazines, journals, etc. Field study research may provide an avenue to understanding how people interact with one another, how they react to the problem and how they change their attitudes. Sometimes, different methods are used to assess the behavior of the people.

Step 6: Sampling takes the questions of whom to study and how many to study. The most simple form of sample size takes into consideration the total population and level of significance. Out of a total population of 1,000 persons, if the level of significance is taken as 5 per cent (.05), the sample size of 285 will be adequate.

Step 7: The empirical phase includes data collection and data processing. The primary data may be collected through questionnaire, schedule, observation or interview or by using two or more of these methods. The secondary data may be collected from the government records, newspapers, journals, books, etc. After collecting the vast data, the relevant data are separated from the irrelevant data. Similarly, the data required for quantitative and qualitative analysis are also processed. Sometimes coding method is used for tabulating the data.

Step 8: Last comes the interpretative phase, i.e., analysing the data and drawing conclusions, giving generalisations or forming hypotheses.

In all these phases, the research abilities of the researcher and the resources available for research play an important role. Sometimes, the operational definition of the concept may be defective or the researcher may not be well acquainted of the method he has chosen for the study, or there may be sample error in determining the size, or some variables might not have been properly controlled. In all these cases, the reliability of the research findings is questioned.
In a sponsored study, the researcher has also to design time-schedule for the various stages of research and the budget he requires to cover the total cost.

In short, the designing of the structure or the basic elements of a research proposal would be as follows:

1. Stating problem, i.e., to show whether it will be descriptive, explanatory or exploratory, action or theoretical research, and what will it contribute to academics or to understanding society.

2. Review of other studies, i.e., going through the findings, hypotheses or theories developed by other scholars in one's own discipline or other disciplines.

3. Operationalising concepts, i.e., giving specific meanings to terms used, e.g., 'political elite', 'development', 'sub-culture', 'prisonisation', etc.

4. Identifying variables of study, i.e., pointing out key variables in the study and methods of measurement.

5. Fixing sample, i.e., deciding the numbers of subjects from whom the data is to be collected and how are these subjects to be chosen.

6. Specifying tools of study, i.e., whether data are to be obtained through questionnaire, schedule, interview or observation. Whether it will be case study, survey study, field study or experimental study.

7. Designing the kind of analysis, i.e., whether any statistical test will be conducted and which one? Specifying logic of type of analysis chosen. Will it be cohort (for comparison) study?
8. Fixing time-schedule, i.e., providing various stages and describing time to be devoted to each stage.

9. Budget, i.e., if someone has sponsored the study (say, UGC, ICSSR, UNICEF, Welfare Ministry of Government of India, etc.). Amount is to be specified for salaries (to investigators, etc.), travelling, contingency, computer analysis, and miscellaneous expenses.

For the statistical analysis, appropriate descriptive statistics correlation and 2x2 Factorial ANOVA technique and for the comparison’t test have been used for data analysis.

<table>
<thead>
<tr>
<th>Students Type</th>
<th>Area of Residence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rural</td>
</tr>
<tr>
<td>Boys</td>
<td>100</td>
</tr>
<tr>
<td>Girls</td>
<td>100</td>
</tr>
</tbody>
</table>

Table No. 3.1 Sample Collection Table

In present study, researcher has used 2 x 2 factorial design. The Type of students (urban and rural) and Gender (Male and female) are the two independent variables, each varied two levels. Factorial research designs are used in experiments where the effects of varying more than one factor are to be determined (Kothari, 2004).

3.4 OBJECTIVES

For the current study, four main objectives have been formulated

(1) To determine the relationship between the aggression and academic achievement scores of rural and urban students in Kolhapur district. In this context researcher want to analyse that the aggression is either the good predictor of academic achievement or not.
(2) To compare aggressive tendency and academic achievement scores of rural and urban area of Kolhapur district.

(3) To examine the gender differences in aggression and academic achievement scores.

(4) To investigate the causes & effect of aggression and academic achievement scores on rural and urban area of Kolhapur district.

3.5 HYPOTHESES

In the course of analysis and discussion following hypothesis are formed for testing purpose based on the empirical data:

(1) There would be significant relationship between aggression and academic achievement scores of rural and urban college students. Aggression affects academic achievement.

(2) Rural college students would be less aggressive than urban college students.

(3) Rural college students would be better academic achievement score than urban college students.

(4) Aggression of urban boys would be significantly more than rural boys.

(5) Academic achievement score of urban boys would be significantly less than rural boys.

(6) There would be significant differences in aggression of girls according to their residence. Urban girls would be more aggressive than rural girls.
(7) Academic achievement score of urban girls would be significantly more than rural girls.

(8) Girls would have significantly less aggressive tendency than boys.

(9) Girls would have better achievements in their academics than boys.

(10) There would be significant relationship between living status and aggression of college students.

(11) There would be significant relationship between gender and aggression of college students.

(12) There would be significant relationship between living status and academic achievement of college students.

(13) There would be significant relationship between gender and academic achievement of college students.

3.6 SAMPLE

Sampling is the procedure of choosing units (e.g., persons, associations) since a inhabitants of attention so as to study the example we can quite oversimplify our consequences support to the populace from which they were selected. To put it in different words, it is the act, process or technique of selecting a suitable sample or a representative part of a population for the purpose of determining parameters or characteristics of the whole population.

The sample for the research study has been selected by taking utmost possible care and based on predetermined criteria. A stratified random sampling method is adopted in selecting the sample. For the
current study, 100 (one hundred only) samples for each category i.e. urban male and female & tribal male and female students have been considered.

**Sample Selection Criteria**

Criteria for the selection of sample of current research are presented below.

**Gender:** For gender, sample of equal number of males and females has been considered.

**Qualification:** Only Under Graduate students have been considered

**Age limit:** The age limit for both category would be 16-21 years.

**Location:** Sample for urban and rural students has been collected from the Various College Kolhapur.

For this research, study of 400 male & female students would be considered as samples, those would be selected from above universe by applying simple random sampling method. Age range would be 16 to 21 years (girls and boys) of the total 400 students, 200 students would be taken from urban (100 boys and 100 girls) and 200 students from rural (100 boys and 100 girls), taking education in (B.A.F.Y) colleges situated in Kolhapur district shown as under,

3.2:-Following table showing the short summary of sample:-

<table>
<thead>
<tr>
<th>Students</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>100</td>
<td>100</td>
<td>200</td>
</tr>
</tbody>
</table>
For the current study, 100 (hundred) samples for each category i.e. Urban college students and rural college students has been considered. Selection of sample has followed some criteria i.e. (1) urban and rural, Boys and Girls and graduates (B.A.F.Y) have been considered, (2) Sample selected was various Art's, comm.. and science college of Kolhapur Dist.(3) The age limit for the both category would be 16-21 years, (girls and boys) of the total 400 students, 200 students will be taken from urban (100 boys and 100 girls) and 200 students from rural (100 boys and 100 girls), taking education in colleges situated in Kolhapur district.
Survey method will be used to acquire response from the students for studying our problem with the help of questionnaires. Questionnaires have to be filled with a sample of both male and female students. Data will be collected through Random sampling method.

3.7 TOOLS

Tools used in present study have been previously used in various studies by their authors as well as by other researchers. In present study, Indian tools have been selected based on the requirement. Tools were used as aggression Inventory (G.C. Pati) and Academic achievement two years results score

For the present research the investigator used following tools for the data collection.

3.7.1 Dr. G.C. Pati Aggression Inventory:

Construction of the aggression questionnaire is based upon they following considerations: (a) presence of the tendency to aggression is expressed by anger, jealousy, hated, punishing, injuring attacking etc and desire to belittle ridicule. (b)The above mentioned expressions are observed in certain situations. (C) In any experiment set up the appropriated situations that would elicit aggression expressions would be those situations that usually invite aggressive behaviors. (d)Even in these situations all persons would not react aggressively. In this regard, perhaps 4 types of behavior can be classified- low aggressive, mildly aggressive, moderately aggressive or highly aggressive. (e) It is recognized that to present real or even same aggressive potential situations in an experimental or test set-up is not easy. It is also known that descriptions of such situations, where the subject is given to understand “if such situation occurs, what would be the best appropriate action of what they would do” would serve the purpose in an
experimental or test set-up. The questionnaire deals with the set of sixteen questions. Every difficulty explains a circumstances, where a few outline hostile or unexpected activities has happened and as well a few human beings who have reacted to that in stumpy to mildly violent, reasonably hostile or highly destructive methods. The theme is characterized to point out the finest suitable answer out of the agreed three answers extracted by the circumstances from human beings illustrated in the enquiry. In this mode, the questionnaire describes 16 different situation relating family, peers certain outside persons, antisocial characters, abed and court.

Result of the pilot study indicated, and several psychologists opined that all 16 questions were goes enough as aggression questions.

Administration:-

The questionnaire can be administered in following two ways:-

(a) The subject may be supplied with a copy of the questionnaire, and requested to read questions and tick one of the alternatives which he prefers. (b) The investigator rends the questions to the subject and notes the answers. Subject's disagreement to state either of the alternatives as the appropriate action is noted, but he is scored zero for that question.

Scoring:-

The questions admit of three probable responds representing low to mild belligerent, modest hostile or high violent drifts. These can be effortlessly achieved as 1, 2, and 2 and 3. The remoteness among 1 and 2, and 2 and 3 are scientifically alike. It have to be anticipateed this
equality distances among low and mildly destructive and reasonably 
hostile and among reasonable hostile and extremely violent arises for 
these to be attained as 1, 2 and 3. But, the thought of equivalent 
remoteness among them can not be acceptable. The hypothetical 
suggestion points out a superior aloofness among modest hostility and 
elevated violence than among low-mild hostility and modest hostility. 
Therefore, scoring the substitutes 1, 2 and 3 is not utilized. And “Sigma 
deviate weighting method” as devised by Likert is exercised. By this 
means a scoring timetable is organized to attain human being 
presentation.

Validity:-

To find out validity co-efficient of the aggression questionnaire, it 
was compared with statement in questionnaire of aggression” barrowed 
from Murray. This group of subjects upon whom this validity study was 
made, comprised of psychiatrists, clinical psychologists, students of 
psychiatry and clinical psychology of National Institute of Mental health 
and Neuro-Science. Bangalore, subjects were administered both 
questionnaires successively. They answered the questions of the 
aggression questionnaire in the manner described earlier. They scaled 
the “statements of n-aggression.” On a six point scale as these applied 
to them. The scale was borrowed from Murray as given in the “psychological insight test” The result is given below.

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Comparable</th>
<th>‘N’</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson ‘r’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aggression</td>
<td>“statements in”</td>
<td>‘19’</td>
<td>Psychiatrists</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.828</td>
<td></td>
</tr>
</tbody>
</table>

The validity coefficient is significant above one percent level.
Reliability:-

Reliability co-efficient of the aggression questionnaire was calculated by “split-half method” of the 16 questions. 8 odd and 8 even questions supplied the halves.

The correlation for a group of 225 subjects was calculated, which showed a good measure of reliability. The result is as follows:

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>N</th>
<th>Split-halves</th>
<th>‘r’ for split-half</th>
<th>‘r’ for the whole questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggression</td>
<td>225</td>
<td>odd-even</td>
<td>.55</td>
<td>.71</td>
</tr>
</tbody>
</table>

**SCORING KEY OF AGGRESSION QUESTIONNAIRE**

<table>
<thead>
<tr>
<th>Question No</th>
<th>Scoring key of Aggression Questionnaire scores for the alternatives.</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>--------</td>
</tr>
<tr>
<td>02</td>
<td>25</td>
</tr>
<tr>
<td>03</td>
<td>25</td>
</tr>
<tr>
<td>04</td>
<td>24</td>
</tr>
<tr>
<td>05</td>
<td>17</td>
</tr>
<tr>
<td>06</td>
<td>17</td>
</tr>
<tr>
<td>07</td>
<td>26</td>
</tr>
<tr>
<td>08</td>
<td>26</td>
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<tr>
<td>09</td>
<td>26</td>
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<td>10</td>
<td>26</td>
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<td>11</td>
<td>24</td>
</tr>
<tr>
<td>12</td>
<td>27</td>
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<tr>
<td>13</td>
<td>22</td>
</tr>
<tr>
<td>14</td>
<td>21</td>
</tr>
</tbody>
</table>
Table No. 3.3

<table>
<thead>
<tr>
<th>15</th>
<th>24</th>
<th>38</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>26</td>
<td>38</td>
<td>45</td>
</tr>
</tbody>
</table>

Standard Scores for Assessing Aggression Proneness –

- Upto 412 Low Aggression Proneness
- From 413 to 518 Mild Aggression Proneness
- From 519 to 571 Moderate Aggression Proneness
- On and above 672 High Aggression Proneness

3.7.2 Academic achievement: previous examination marks are considered scores of academic achievement.

3.8 PROCEDURE

After procuring permission from the Head or Principals of the various colleges included in the study, the objectives of the study were introduced to the students.

Data for the present study have been collected for hypothesis testing. Individuals have been randomly chosen from the college population and only those individuals have been selected who consented to volunteer and were able to spare their time. Individuals were made to sit in a controlled environment free from any distractions. Clear instructions were communicated regarding process of completing personal data sheet as well as answering questionnaire. Enough time has been given to complete individual responses to all items. It has been ensured before collection of scales that no item has been left unanswered. Each response sheet has been scored and responses have then been put through statistical procedures.
3.9 STATISTICAL ANALYSIS

The scoring for all the tests was done according to the manuals. All statistical analysis were completed as per the parameters of the tests. The present study involves testing differences and relationships. This necessitates use of certain statistical techniques that will be applied accordingly for analyses of data.

For the study, Mean, SD values were calculated and the results were interpreted. Univariate Analysis of variance (ANOVA) was used to treat the results obtained. The ‘F’ values (ANOVA) are calculated to study the main and interaction effects of different variables on each other. Correlation and regression is used to find relationship among the factors and testing our hypothesis.

3.10 SUMMARY

In this chapter the variables their operational definitions and hypotheses were discussed in detail. Methodology was discussed which included the design, sample of the study, the tools used, procedure and Statistical Analysis. This section deals with the hypotheses formulated to be tested. The present chapter describes the method used to study the variables and test the hypotheses. Thus it is a description of the sample selected, the design used, the tools used and the procedure employed.