PRACTICAL
EXPERIMENTAL PSYCHOLOGY -I

M.Sc., Psychology First Year

Semester – I, Paper-V

Lesson Writers

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FOREWORD

Since its establishment in 1976, Acharya Nagarjuna University has been forging ahead in the path of progress and dynamism, offering a variety of courses and research contributions. I am extremely happy that by gaining 'A^{+}' grade from the NAAC in the year 2024, Acharya Nagarjuna University is offering educational opportunities at the UG, PG levels apart from research degrees to students from over 221 affiliated colleges spread over the two districts of Guntur and Prakasam.

The University has also started the Centre for Distance Education in 2003-04 with the aim of taking higher education to the doorstep of all the sectors of the society. The centre will be a great help to those who cannot join in colleges, those who cannot afford the exorbitant fees as regular students, and even to housewives desirous of pursuing higher studies. Acharya Nagarjuna University has started offering B.Sc., B.A., B.B.A., and B.Com courses at the Degree level and M.A., M.Com., M.Sc., M.B.A., and L.L.M., courses at the PG level from the academic year 2003-2004 onwards.

To facilitate easier understanding by students studying through the distance mode, these self-instruction materials have been prepared by eminent and experienced teachers. The lessons have been drafted with great care and expertise in the stipulated time by these teachers. Constructive ideas and scholarly suggestions are welcome from students and teachers involved respectively. Such ideas will be incorporated for the greater efficacy of this distance mode of education. For clarification of doubts and feedback, weekly classes and contact classes will be arranged at the UG and PG levels respectively.

It is my aim that students getting higher education through the Centre for Distance Education should improve their qualification, have better employment opportunities and in turn be part of country's progress. It is my fond desire that in the years to come, the Centre for Distance Education will go from strength to strength in the form of new courses and by catering to larger number of people. My congratulations to all the Directors, Academic Coordinators, Editors and Lesson-writers of the Centre who have helped in these endeavors.

Prof. K. Gangadhara Rao
M.Tech., Ph.D.,
Vice-Chancellor I/c
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M.Sc. – Psychology Syllabus

SEMESTER-I

105SY24 : Practical – Experimental Psychology – I

1. Span of attention.
2. Division of attention.
3. Observation and accuracy of testimony.
4. Study habits.
5. Reaction time.
6. Level of aspiration.
7. Achievement motivation.
8. Social motives.
9. Emotional intelligence.
10. Emotional Maturity.

Note:- Any six of the above experimental to be conducted

- Prof E.G. Paramesswaran, Pror K. Ravichandra. Experimental Psychlogy. Neel Kamal Publications.

- Prof S.P. Chaube, Prof Akhilesh chaube .Experinmental Psychology. Neel Kamal Publications.

CONTENTS

1. Experimental Psychology Introduction

Experimental psychology and general sciences depend upon each other. Like other sciences, psychology is also leaning towards the use of experimental methods. It is because of this that much difficulty does not arise in recognising it as a science. Psychology as compared to other sciences had been late in adopting experimental methods. The first laboratory of psychology was established by Wundt at Leipzig in the year 1879. Although the need of experi-mental methods in the field of psychology was felt earlier, yet parti-cular laboratory facilities for the study of this subject could not be thought of earlier. In its nature of development experimental psychology differed from general psychology. Experimental psychology also enjoyed an independent status. General psychology till the nineteenth century remained a part of philosophy. But with the growth of experimental psychology the nature of general psychology underwent a change, and coming out of the fold of philosophy it found its place in the category of sciences. In fact, the present nature of general psychology is based on experimental psychology. General psychology and experimental psychology are interdependent. It is not possible to think of one without thinking of the other. In a way, it may be said that experimental psychology is a part of general psychology. Under experimental psychology efforts are made to solve the various problems of general psychology. Experimental psychology can only be thought of in solving these problems.

Psychology and other sciences. It has been said earlier that psychology tries to adopt scientific methods. Psychology differs from other sciences in matter only, but not in the method. For example, in physics concrete objects are studied. But psychology wants to "confine itself to the study of mental processes only. Under these mental processes comes the study of human desires, emotions, impulses, thoughts, etc. and an analysis is made of these. In this way we find that like other natural sciences psychology also wants to study things relating to life, but it wants to confine itself to the study of internal things only. Except for this difference and some special methods there exists no difference between psychology and any other sciences.

Experimental psychology, a pure scientific form of psychology. The base of every science is generally minute observation. There can be two forms of observation in psychology. In the first, we think about our own mental process, and in the second, we minutely study other persons' behaviour. The study of our own mental processes can only be considered correct when it may emerge correct in comparison to other people's behaviour. If it is not compared with the behaviour of others, it is possible that it might become prejudicial due to personal ideas, desires, emotions or considerations of the observer and therefore the conclusions might not be correct. With the help of experimental psychology the chances of arriving at the right conclusions are higher, because there are less chances of being influenced by personal ideas, desires or emotions. In fact, in experimental psycho-logy we find the scientific form of psychology. In experimental psychology the study of stimulus and response is done under control-led conditions. Experimental psychology carries out the following functions in its study of the human behaviour:

(1) To control environment relating to stimulus as far as possible;

(2) To separate variables for the purpose of study;

(3) Using necessary instruments for making stimulus more active, or for correct study of responses;

(4) To convert data into numbers so that correct conclusion may be drawn with the help of statistics;

(5) To enunciate a scientific formula relating to data with-out paying attention to practical utility.

Help in understanding and controlling behaviours. It is to be noted that in experimental psychology the mental processes of generally a normal human adult are studied and within the scope of this study come things like concentration, memory, learning, sensa-tion, and perception and impulse, suggestion and suggestibility, motor activities and hereditary factors.

Because of the prescribed limits of experimental psychology, in it social, genetic, comparative and differential things are not included. Hence experimental psychology is Experimental Psychology that branch of science through whose help human behaviour is studied on scientific lines. In this study the object of exercising self-control with discretion and understanding the methods of influencing others are also included. In this way, with the help of an experimental psycho. logy we can achieve much success in understanding a man's behaviour and controlling it.

After studying the nature of experimental psychology, it becomes necessary to mention the methods used in it. These are discussed below.

2. Methods of Experimental Psychology:

Generally two methods are employed in psychology-the subjective method and the objective method. The subjective method in comparison to the objective method has lost much of its utility However, some use is made of this method occasionally. As such, it will not be out of place to discuss its merits and demerits.

A. Subjective Method:

Merits and demerits. In the beginning the subjective method was mostly employed and with its help all formulas relating to mental processes were determined. Subjective method stood for introspection. Even today the subjective method is used to learn some aspects relating to a man's behaviour. For example, when a psychologist asks one on whom he wants to make experiment, to write some thing about himself, he (the psychologist) takes the help of subjective method. In this way, whatever the subject tells about himself is called verbal report. When even under fully controlled conditions we do not get correct account of any mental process, we have to employ the subjective method. When an expert psychologist employs this method, many of its demerits are overcome and correct conclusions are reached. Some conclusions derived through subjective method are regarded as proofs of its reliability.

But one will have to accept that too much use of subjective method will not be proper because this method suffers from many defects. A psychologist has to perform two functions while employing this method. This results in the division of attention in two parts. First he has to pay attention on his own mental processes and secondly on the reaction of his introspection. It is difficult to pay adequate atten-tion to both efficiently. Moreover, results achieved thus are also not very correct. The other difficulty in this method is that every one is not competent to employ this method. Hence, for the study of a problem it is not possible for every one to employ this method. For verifying the correctness of a scientific result the

experiments are repeated and when after the repetition the same conclusions are reached, they are considered authentic. This is not possible in the subjective method, because mental processes differ in different persons. Even a difference is found in the same person's mental process with the change of place and time.

B. Objective Method:

(1) Questionnaire Method

Merits and demerits Under this method a questionnaire is prepared on some subjects and is sent to the subjects for obtaining their replies. This method is very important for the study of psychology, as under this study come the problems related with individual or personal experiences. We can know these personal problems from the experiences of different persons. Correct conclusions can be arrived at from answers given by different persons to the same questions because the defect of incorrect examination or personal bias can be eliminated through this method. With the help of this method different types of persons can be easily approached and the psychologist can benefit himself from their experiences. But too much emphasis over this method or its too much use can also prove harmful from the point of view of correct conclusions, point of because then one will leave other methods and depend on it entirely. It needs no mention that it is desirable to use various methods for solving any problem.

(2) Laboratory Method

Nature. In the laboratory method the object is studied from various angles. For use in the sphere of experimental psychology Thorndike, for the first time, invented some complicated instruments, His laboratory method has earned world fame in the study of animal behaviour. Thorndike through his experiments proved the utility of laboratory method in the study of the problems relating to learn-ing and mental testing. With the efforts of psychologists during the last 60 years laboratory method has been employed to a large extent in solving psychological problems. In this method a certain mental process is studied in artificial atmosphere. In this method some aspect of the experiment is kept constant or non variable and some variable. Full control is exercised on variable things and their number, too, is kept low. For example, suppose that we have to make an experiment on memory. Memory depends on attention, interest and repetition of things learned. As such by keeping attention and interest constant one can understand the influence of repetition on memory. Here repetition of things may be accepted as ‘independent variable’ factor. In this condition the subject will have to repeat a couplet many times for remembering it. He will then be asked to recite it with the help of his memory without seeing the book. In this process his mistakes and the help given during recitation will be counted. The next day or after a few days the subject will be given a similar couplet having almost the same diffi-culties and of the same nature and will be asked to repeat it many times. This experiment will be repeated a number of times. As a result of many repetitions the number of mistakes will go on declin-ing. From this experiment the conclusion can be drawn that by increasing the number of repetitions the mistakes decrease and there is a direct relationship between the act of repetition and memory. In the same way, attention or interest may be made independent variables in other experiments.

Qualitative and quantitative experiments. Psychological experiments may be divided into two categories: qualitative and quantitative. In the qualitative experiments efforts are made to understand the quality or nature of an action, while in quantitative experiment emphasis lies in understanding its quantity or volume. For quantitative experiment special

arrangements are needed in a laboratory. This type of experiment can be conducted by only efficient psychologists. It is only on the basis of a quantitative experiment that it can be said whether a man's span of memory or attention is 25 or 30 or his intelligence quotient is 110 or 125. Through qualitative experiments the nature of a man's memory, attention or intelligence is decided. In this type of experiment wide and active introspection is needed.

Limitations of Laboratory Method:

Human being not fully controlled. Laboratory method as used in psychology has some of its limitations. Physics or other similar sciences are free from these limitations. The subject of the study of psychology is the cause of these limitations. It has already been pointed out earlier that on human beings experiments cannot be conducted with that accuracy with which it is possible on objects in an exact science like physics. The reason is evident. Man is a conscious being and he cannot be fully understood by his external behaviour only As such, experiments conducted on him will not give definite results. They will at best indicate possibilities. Behaviourist psychologists, however, are not prepared to accept this limitation of experiments. In their opinion human behaviour can be followed in the inter-relation of stimulus and response. But behviourists have failed to advance authentic arguments in support of their contention. In fact, human behaviour is not so simple as can be governed by the formula of ‘stimulus-response’. In human behaviour, there exist independence, selectivity and purposiveness and in any given situation he cannot be fully deprived of his independence of behaviour. His independence is not limited to his behaviour only. It can also be observed in relation to stimulus as well. It is because of this that he reacts to a particular stimulus despite the presence of various stimuli in the environment.

Full control not possible in all situations. The other difficulty in the laboratory method is that despite full co-operation from the subject it is not possible to control all situations related with him. For example, despite the best efforts the subject fails to constantly maintain uniformity in his attention and interest. Some difference will always be observed in the depth of his attention and interest. Besides, in any situation similarity of behaviour and response cannot be expected from different persons. It is because of this factor that psychological experiments are performed on many persons and only the average result is recognised.

Experiment No. 1

1. Span of Attention

Individuals generally engage in trying to accomplish some task. The task could be as simple as preparing a cup of coffee, as complex as doing brain surgery, or something in between, like trying to solve a mathematical puzzle. Whatever may be the task, only a tiny portion of the incoming stream of information is relevant to it. The vast majority is irrelevant. This state of affairs implies that the sensory systems and the brain must have some means of screening the incoming information allowing through only the information relevant to the task at hand and filtering out the irrelevant information. If such a screening process did not exist, the irrelevant information would overwhelm the relevant information, and we would never get anything done.

Indeed, when we look at the sensory organs and certain parts of the brain, we discover that a major design feature is 'filters' that allow them to screen and select incoming information along various dimensions. Roughly speaking, the sum total of all these filters is what is known as attention. Our various filers are adjusted to screen out all but the information that is required for the task at hand.

The process of sensing, attending and interpreting the jumbled sensory impressions to meaningful patterns is known as perception. Attention and perception are considered to be twin psychological process, independent of each other yet closely related while functioning. Some theories of attention claim that there can be attention without perception but no perception without attention. Attention is considered as process which bridges the gap between sensation and perception. When the sense organs sense and record a stimulus it has to enter the channel of attention in order to be perceived. The first stage here involves a selection of some part of stimulating situation for further processing. Attention, therefore, begins with a process of selection and elimination.

Phenomena of Attention

Suppose you are listening to a lecture on interpersonal relationships in psychology. Your awareness of the sound of the words is more intense at certain moments and less at others. This illustrates the phenomenon of fluctuation. This property of fluctuation is integral to the basic process of attention and occurs even when there is no other sensory stimulus which is competing for your attention. Our attention, therefore, varies in intensity from moment to moment.

Shifting of Attention

The intensity of attention to a certain stimulus is also affected by the presence of other stimuli competing for your attention. This is referred to as shifting of attention. This means a person's attention, though focused on something, usually moves to other things in one's environment. The attention process shifts from one part of the stimulus to another. For example, when a biologist sits at a laboratory table dissecting an animal his attention is focused on the animal. Nevertheless, he may also be marginally aware, at the same time, of the voices of other people working in the laboratory, the creeking sound coming from the rotating ceiling fan, etc.

Distraction of Attention

Another phenomena related to attention is what is known as distraction of attention. Here the attention does not merely shift from one part of the stimulus to another. Our attention warders

away when we start attending to something else. This must be a very common experience to students while listening to a lecture or reading a text book. Here attention does not automatically come back. The student has to make an effort to get back to the book or lecture. Distraction is caused by a number causes. Therefore, interference of certain factors on our attention is generally referred as Distraction of Attention.

Span of Attention

Yet another phenomenon related to attention is that there are limitations to the number of objects or stimuli that can be attended to in one act (period) of attention. The maximum amount of material that can be attended to in one period of attention is referred to as span of attention. This phenomenon can be demonstrated by the number of figures or letters an individual can notice in one flash of attention. The span of attention not only differs from person to person but also varies depending on the nature of the stimulus. When meaningful words are presented you may be capable of attending more letters than the discrete digits of a number.

Factors Influencing Attention

What are the factors that make an object or situation attract our attention? This is a question of enormous practical importance. In advertising or selling, for example, the attention of the prospective buyer must be attracted before he can be sold the product. In education, too, one of the first tasks of the teacher is to win his student's attention, in the broadest sense of that word.

Many factors influence the direction of our attention in a given situation. Some of these, are related to the characteristics of the stimulus situation; others, are related to the individual. The former are referred to as objective factors and the after as subjective factors. Usually several of these factors operate together in determining the direction of our attention; the effects of one may wholly or partially cancel out another.

Prepotency. Some stimuli are more potent in attracting attention than others.
For example, high sounds are prepotency over low sounds, tickling over broad, smooth pressure; and saturated colors over pastel shades. Such prepotency does not necessarily depend on the relative strength of competing stimuli, nor does it depend upon previous experience.

Change. Change usually attracts attention. Change is movement in any direction: from one place to another, from one intensity to another, from absent to present, from red to green, from high to low, from moving to stationary. A sudden shout in the middle of a quiet talk or a whisper from a man who has been shouting makes you "sit up and take notice".

Size: Other things being equal, something large attracts attention better than something small. This is one factor favoring the full-page advertisement. Size, however, is only one of many interrelated factors determining the direction of attention. Even a large advertisement may suffer by its nearness to another-perhaps smaller-one which appeals more to the reader's interests and needs or has a more striking use of color.

Repetition: A weak stimulus frequently repeated may be as effective as a strong one presented once. But there is a limit to the effectiveness of repetition. If overdone, it can lead to monotony.

Experience shows that repeating a fundamental theme or motif with minor variations is more effective than repeating the original presentation exactly. Many radio and TV commercials are designed on this principle. An effective advertising or political campaign often repeats an essential idea with numerous small variations. Architecture and music also offer many examples of how attention can be maintained by repetition of a central theme with variations.

Organic condition: The stimulus that wins the competition for your attention is usually the one that relates to the strongest biological need operating at the moment. If you are hungry, stimuli related to food will attract your attention. If you are tired, stimuli related to resting will be most effective.

Interests: People vary greatly in their responses to the same stimulation because a person's interests, like his organic condition, predispose him toward a particular response. Suppose that a geologist, a farmer, an artist, and a real estate promoter are looking at the same plot of ground. The geologist's attention may be attracted to the layers of rock exposed where the road has been cut through a hillside. The farmer will probably examine the soil and any plants growing in it. The artist may walk about until he finds a position from which the landscape seems a balanced composition. The real estate promoter may look the property over carefully to see how it could be subdivided. The objective stimulus is the same for all these individuals, but because their interests differ, their attention and behaviour vary accordingly.

Social suggestion: In general, people attend to what is pointed out to them. Probably this is because they have enjoyed many satisfactions and avoided many discomforts or injuries in the past by acting on the suggestions of others. Herein lies the basic explanation of the effectiveness of the following old prank. When you are in a cafeteria line examine the top tray minutely and critically and then take the second tray instead. Usually several others following you in line will also reject the top tray. They are reacting to the suggestion that is implicit in your actions.

An apparatus for the brief exposure of visual stimuli that is used in study of learning attention and perception. Tachistoscope can used for determining the level of visual illusion. The first tachistoscope was originally developed by German physiologist A. W. Volkmann in 1859 and Samuel Renshaw used it during second world war in the training of Air force officer. At any given moment there are several stimuli in the environment competing for our attention.

However, our sense organs can respond to only a limited number of them at the same time. This limit is known as span of attention. The span varies from individual to individual, from sense organ to sense organ and also according to the nature of the stimuli. The earliest psychologist to be interested in the problem was Sir William Hamilton who made a very crude experimental attempt to study the problem. An advance was made on this method by **Jevons**, the logician. However, real scientific experimental work on the problem was started by **J. M. Cattell** who adopted an instrument called Tachistoscope for this experiment. After **Cattell**, a number of experimenters have worked on the problem for studying the span under different conditions. Later experimenters have distinguished between span of attention and span of apprehension and also found that span of apprehension is greater than span of attention.

Problem

To determine the span of attention for the following type of Visual Stimuli:
(1) Single Dots, (2) Grouped Dots, (3) Meaningful Words, (4) Non-Meaning Words.

Materials Required

(1) **Tachistoscope-** Falling Door Type,
(2) 40 Meaning Card from 2 to 1 word,
(3) 15 Non-Meaning Cards from 2 to 7 word,
(4) 17 Dotted Card.

Description of the Apparatus

There are different type of Tachistoscopes. **Falling door type** is one which usually has a fixed exposure time. There are other tachistoscopes which are operated electrically and the exposure is variable and adjustable (camera-shutter types). For the present experiment the simple falling door type will be adequate.

This consists of a wooden screen with a window in the middle which is covered by a movable falling shutter. This falling shutter can be closed or opened with the help of a lever at the top on the back side of the screen. The exposure time is usually 1/10 of second. This time has been found to allow the subject a good glance at the exposed material and at the same time short enough to prevent him from reading it or memorizing it.

Procedure

The subject is seated in front of the tachistoscope so that he has a good view of the exposure window. The experimenter sits on the other side of the apparatus with the cards.

Instructions to the Subject for the Dotted Card
'Observe this window carefully. I will say ready and open the window. You will see a card with a number of dots. Try to find out how many dots there are. The card will be exposed only for a short time.'

The experimenter then shuffles the set of cards with single dots and exposes then one after the other, each time giving the 'ready' signal. After presenting each card he makes a note of the actual number of dots as well as the subject's response for that. The complete set is thus exposed and the whole set is repeated second time. Each card is thus exposed twice, and therefore there are 6 stimuli for each level, i.e. 6 exposures for dots, 6 exposures for 4 dots, etc.

After exposing all the cards the experimenter correct them and finds out how many times the subjects has responded correctly for each level out of the possible 6 times.

Results:

Table 1: Shows span of attention for the nonsense syllables.
Table 2: Shows the span of attention for meaningful words.

Table 1: Shows span of attention for the nonsense syllables

No. of	Stimuli in each word	Set I 1st trail	Set II 2nd trail	Set I 3rd trail	Set II 1st trail	Set I 2nd trail	Set II 3rd trail	No. of correct % responses
3								
4								
5								
6								
7								
8								
9								
10								

Table 2: Shows the span of attention for meaningful words

No. of	Stimuli in each word	Set I 1st trail	Set II 2nd trail	Set I 3rd trail	Set II 1st trail	Set I 2nd trail	Set II 3rd trail	No. of correct % responses
3								
4								
5								
6								
7								
8								
9								
10								

Similar table to be prepared in group dots and single dots.

Discussion:

- The span of attention for group dots and single dots is compared.
- The span of attention for nonsense syllables is compared with the span of attention for meaningful words. The results are discussed in the direction of hypothesis stated.

Conclusion:

The span of attention was determined for various visual stimuili.

Experiment No. 2

DIVISION OF ATTENTION

Introduction:

One of the central problems studied under attention is the possibility of dividing attention between two tasks. We have heard of ministers of certain kings who dictated 5 to 6 letters to 5 to 6 different writers simultaneously. What actually happens in such cases is rapid shifting of attention between two tasks. When both the tasks are done simultaneously one of them becomes automatic. To some extent divi-sion of attention is possible when one task is a simple physical one and the other mental. When we try to divide our attention the performance goes down. Thus real division of attention is not possible. When children do not divide their attention they have a better chance of learning. Index of divisibility shows the extent of division of attention between two tasks. An index of 1.00 shows that the subject could carry out both the tasks simultaneously.

Problem: To study the possibility of division of attention.

Plan: The Experiment is conducted in two parts
(a) Two muscular tasks
(b) Two mental tasks. Each part has 3 series.

Materials:
1) Division of attention board having circular and triangular patterns
2) Two counters
3) Two Battery Boxes
4) stop clock
5) Writing materials.

Procedure: Before the Experiment proper, One end of the Division of attention board has to be connected with the counter, Stylus and battery box, the other end has to be connected with the second counter, second Stylus and the second Battery box.

PART 1
Two Muscular Tasks: Attention Board

ATTENTION BOARD

Introduction

The question whether our attention can be divided between two or more things or jobs at the same time has been studied by many experimenters. This has taken the form of requiring the subjects to perform the tasks separately and per-forming them simultaneously. In studying this problem the nature of the task must be kept in mind. The two tasks may be physical or motor. The two tasks may be intellectual or mental. Thirdly, one task may be mental and the other may be physical. In general the loss of efficiency in physical tasks has been found to decrease with time because both of them become automatic and probably-there is little attention involved in either or both of them after practice.

Problem

The problem in this experiment is to verify the hypothesis that efficiency of work or attention decreases when two tasks are performed at the same time.

Materials required:

1. Attention Board with Impulse Counter/Simple Attention Board- The division of attention board consists of a wooden board with a circular and triangular groove with a metallic contact point on each side. The board is wired inside so that any passage of electric current on it from a battery can be recorded on an impulse counter and red lights grown up.
The board is connected at its terminal to a battery. The other terminal of the battery is connected to a metallic stylus through an impulse counter. When-ever the stylus passes through the metallic contact point the counter would record once.

2. Stop Watch/Stop Clock, 3. Paper, 4. Pencil

Procedure
1. Ask the subject to trace the circular groove with his left hand and record the number of tracings for a period of two minutes with the help of a stopwatch.
2. Ask the subject to trace the triangular groove with his right hand for a period of two minutes and record the number of tracings with the help of stop watch.
3. Ask the subject to trace the circular groove with the left hand and the triangular groove with the right hand simultaneously for two minutes. Record the total number of tracings.

TABLE 1

Side	Groove Position	Time
Left Hand	Circular Groove	2 Minutes

TABLE 2

Side	Groove Position	Time
Right Hand	Triangular Groove	2 Minutes

TABLE 3

Side	Groove Position	Time
Left Hand	Circular Groove	2 Minutes
Right Hand	Triangular Groove	2 Minutes

Calculation of Division of Attention
Calculate the Coefficient of division of attention as follows:

Coefficient or division of attention $C.D. = 1 - \frac{D_1 + D_2}{S_1 + S_2}$
Whereas S_1 = Score on first Physical Task done individually;
S2 = Score on second physical task done individually.
D_1 Score on the first task done along with the second task;
D_2 = Score on the second task when carried out along with the first task

PART II
Two mental Tasks:

I Series: The subject is to be given a base number (for example 3) arid a given number (for eg 2) and he is asked to add them and go on telling the total (that is 5). To each succeeding total he has to add the given number and go on telling the total (e.g. 5,7,9,11,13,15 etc) as fast as possible The experimenter will note down the number of correct additions for a period of 30 seconds. The reading is called S1.

II Series: The subject is instructed to write the letters of the alphabet in the reverse order (Z to A) as fast as possible for a period of 30 seconds, The number of letters correctly written in the reverse order is noted as S2.

III Series: The subject is instructed to perform both the above said tasks Simul-taneously for a period of 30 seconds. The number of times the given number is added to the base number correctly is noted as D_1 and the number of letters written in reverse order is noted as D2.

Precautions:
1) Every effort should be made to see that the subject performs the task properly.
2) The subject should not know the purpose of the experiment

Analysis of results: Index of divisibility is to be worked out for both the parts sepa-rately using the formula

Coefficient of division of attention = $C.D. = 1 - \frac{D_1 + D_2}{S_1 + S_2}$

Conclusion : Coefficient of division of attention for two mental tasks is _____
Coefficient of division of attention for two physical tasks is_____

Experiment No. 3

3. Observation and Accuracy of Testimony

The Observation method in **PSYCHOLOGY** is crucial for understanding behaviour in a real world setting; allowing researchers to study actions and interactions as they naturally occur. It generates rich qualitative data and provides insights. It involves attentively watching and documenting events as they occur; nothing connections or casual relationships. Observations are used to collect information about social phenomenon in research endeavours. But observation is a part of everyday life for everyone. Not all observations are. Scientifically valuable when observation is strategically planned and. Meticulously recorded observation is important for understanding human behavior.

In studying behavior one of the methods used is the observation method. It is an objective method through which we get valuable information about events happening around us. When there is casual observation, we cannot observe accurately. But when there is scientific observation, what we observe will be more accurate. When there is a direction to our observation the accuracy in reporting increases. Perception, learning, thinking, mental and all the higher Psychological functions depend on observation. Observation method has been extensively used in studying the movement of planets, animal behavior and child behavior Testimony includes observation, perception end memory and reporting.

Problem: To study of the Subject observation on the accuracy of testimony.

Materials:
1) A colourful picture with many details mounted on a mount board (with a flap) to it.
2) 20 questions pertaining to the picture
3) Key (List of correct answers)
4) Stop clock
5) Writing materials

Procedure:
Part I: The student taking the experiment (the subject) is to be seated comfortably. He is to be instructed in the following manner- "I will show you a picture, observe it carefully. After sometime you are expected to answer to some simple questions I ask". After these instructions are given the subject is shown the picture for a duration of 60 seconds by opening the flap. At the end the subject is asked to answer the questions; his answers are recorded and the number of correct answers are noted down

Part II: The subject is instructed in the following manners "Now you write down the statements regarding your understanding of the picture. You write down each statement in a separate line." The statements are connected as per its accuracy.

Results:

Table I Showing the S score for questions

Total No Questions	No of Correct answers	% of Correct

Table II Showing the Statement reported

Number of statement reported	**No of correct statements**

Decision: Discussion about the percentage of correct answers. which reflects the ability of observation and memory of the. subject. table 2 showing the number of connected statements reported reflects the perceptual and memory abilities of the subject.

Conclusion: The 'S' percentage of correct answer ___
The no of correct statement reported ___

Application: The selection process of Police and CID and in selection newspaper reporters.

Experiment No. 4

4. Study Habits

Study is an important part of university life and there is no universal method that fits every student or subject. Developing practical study habits in largely a matter of working out what works best for you. There are, however, useful methods and guidelines you can follow to help maximize your learning

Introduction:
Study time is any time you do work related to university. An important aspect of effective study time is the ability to organize yourself and your environment in a way that best suits your learning, Try to become actively engaged in your learning by consciously aiming to implement the 12 strategies below

1. Schedule study into your timetable

Planning is the key to getting organised and you should start from the beginning of the semester, A schedule will make you aware of how much time you actually have to study each week, Give yourself the best opportunity to benefit from your study time

You should recognise your own body rhythm and use it to your advantage. Some students operate better in the momings and others prefer the evenings. There should be a time of day when you know you are most alert and productive Create a 24-hour 7-day a week timetable that includes the following information.

First, include ongoing information.

- lecture and tutorial, sessions
- part-time work commitments
- travelling times
- lunch times/break times
- socialising times
- other regular commitment.

Second, add your critical dates

- due dates for assessment tasks
- dates for clinical/professional placements

2. Find a suitable study space.

Our minds and bodies adjust to environment, so choose a specific environment you come to recognise as your study space

- Find a peaceful place at home or the university that is situated away from family, friends and pets, as well as the radio, television and other potential distractions.
- Choose an environment where you feel comfortable, neither too hot nor too cold.
- Ensure that the materials you require are within reach to avoid the hassle of having to go and find them.
- Tell family and trends not to interrupt you during your study time. Let them know when you are having an uninterrupted study session.

- Tum-off your phone and let people leave you a message. You can respond to them once you have finished your study session.
- Avoid the temptation to check your email or favourite social networking site, particularly when working on or near a computer

3. Reduce unnecessary distractions

Unexpected distractions can break your concentration. After an interruption, it may take several minutes for you to get back your focus. So try to arrange your study time and place to there a chance for distraction

4. Set specific study goals

Simply sitting down to study has little value. Study goals will help you to stay focused and monitor your progress. Be clear about what you want to accomplish which may include:

- completing assigned readings
- working on papers or projects
- revising lecture or tutorial notes
- studying for exams

Be realistic and learn to adjust your expectations of yourself if you find that your readings are complicated or that writing a new assignment is taking more time than anticipated, you should modify your schedule accordingly Be sensible with your workload to avoid becoming overwhelmed.

Create your own Incentives for successfully finishing a task.

5. Get started on your study

When choosing what to study, begin with your feast enjoyable or your hardest subject Tesle this subject when you have the most mental energy, The order in which you rank the difficulty of your courses may change as the semester progresses, so be flexible. Moreover, carefully and regularly review your course guide or My Uni to ensure you are up-to-date and focused.

6. Review your notes

Reviewing lecture notes on the day of the lecture will help reinforce the material give opportunity to complete your notes by filling in any gaps or deciphering any unclear notations while the subject is still fresh in your mind.

At all times go through the feedback on work handed back to you by your lecturers/tutors. They should have written a comment telling you what you could have improved Reflect on the ro and apply that advice to your next assessment task.

Reviewing your materials on a weekly basis will give you the opportunity to identify problem your understanding and is an effective way to begin preparing for exams Waiting until shortly before exams to look through your study notes may result in gaps in your learning, which could result in confusion.

7. Ending your study session

Do not stop a study session at a difficult or daunting spot in the subject matter, as you will be less eager to return to it. If you pause at a point of interest, then you will feel more positive about returning to your studies at another time.

8. Plan trial exams

Get into the exam mode by clearing your study space and sitting past exam papers under Name like conditions. This will also give you the chance to see your lecturer/tutor to clarify any uncertainties before the real exam. Look on for past exams for your courses or ask your lecturer or School for copies of past exam papers.

9. Seek academic help if needed

Take responsibility for yourself. If you are struggling with a problem or concept, you must seek help as soon as possible. Do not wait until just before assignments are due and/or exams have commenced.

Foremost, consult your program/course coordinator or lecturer/tutor for clarification, Consult your course guide and for additional information. Allow yourself time to work through problems and actually understand the concepts

10. Seek personal help if needed

If stress becomes a factor, there are a number of strategies you can explore. The Counseling Service runs workshops on stress management and relaxation. You can also make a personal consultation time with a counsellor to work on your issues Contact the Counselling Service on 8313 5663 or check their website www.adelaide.edu.au/counselling centre for more details.

If you have a disability that may impact on your general academic performance and/or ex results, make sure you have spoken to a Disability Advisor to arrange special consideration may aid in improving your grades. If you require alternative exam conditions, you must re the Disability Service before the cut-off date. Contact the Disability Service on 8313 5962 their website www.adelaide.edu.au/disability for more details.

STUDY SKILLS INVENTORY

INTRODUCTION:

Study habits emphasize the regularity or routine practices such as reading by one self, being up to date in assignments, reading at the same place or time etc., Study skills emphasize the technique or art of efficient study. For example, spotting the main point etc., It is a combination of skills and habits that go to make good scholarship. Individuals may differ in their study. Yet experience and experiments have shown the some of the skills and habits are so basic or fundamental that they may be regarded as the common denominator of efficient approaches to academic success.

The study skills are used to assess the study habits of pupil. The pupil having good study habits are not important but having good study skill is important. The concentration is a process in which complete mind is focused on particular object. For effective learning, overview of the topic and learning by whole vs part is important. Recalling frequently what we learnt and giving rest is important after some study. Preparation of time table is essential to overcome examination fear.

Aim: To assess the study skills in the subjects or pupils.

Materials: Study skills inventory, Manual and scoring key, by PV Rama Maurthi

Description of the Inventory:

This inventory consists of 25 items. The inventory covers concentration skills, studying and note taking skills, time budgeting and general attitude to study and work. The items are in the form of statements and each statement was provided with two category response. A high score would indicate possession of good study skill while a low score would indicate poor skills. A test retest reliability on a sample of 100 subjects with an interval of 15 days was found to be 0.94. The Instrument has been found to have good predictive validity.

The top 25% and bottom 25% of the distribution of scores on the study skills group with high and low achievement in public exams i.e., between extreme groups were compared. Examination marks of the high study skill group is significantly higher (at 0.01 level) than the low study skill group. It show that the inventory ha been found to have good predictive validity.

The subject is seated comfortably in a uniformly lighted room and the SS inventory is given. The subject is instructed as follows:

"The inventory which is given to you contain some items related to your study habits. Read carefully and answer with a trick mark. This is not an examination. There is no right wrong answer. Please indicate your answer for all the items."

The data sheet is scores according to the scoring key.

Result:

Table - I: The individual data on different areas of study skills inventory.
Table - II: The group data in different areas of study skills inventory.

Table - I: individual data on study skills.

Areas of study skills inventory				Total	
Readiness	**Concentration**	**Time budget**	**Exam. Preparation**	**Misc.**	

Table - II : Group data of study skills.

S.No.	Name	Areas of Study Skills					
		1	2	3	4	5	Total

Discussion:

Points to be discussed are:

(a) Report the individual scores obtained in different areas of study skills.
(b) Mention in which area the subject has problem and needs. counseling.
(c) Compare your subject's scores with the group mean and explain if your subject has got good/poor study skills than the others in the group.
(d) In the group data, mention who have good study skills and who have poor study skills.
(e) Mention how many subjects in the group have problems in some areas of study skills and check need for counseling.
(f) Discuss whether males and females have differences regarding study skills.

Conclusions:

1. The subject_____has_____study skills.
2. The subject has_____skills
3. In the group_____have _____ study skills.
4. Male and Female differences are significant in_____skills.

Experiment 5

5. REACTION TIME

INTRODUCTION:

If two of us see a red light while walking on a main road crossing, one of us invariably stops earlier than the other. Similarly in all situations some people react quicker than others. Individuals, thus, differ in their reaction time. The problem of reaction time was one of the earliest to be studied in experimental psychology. Helmholtz, the physiologist, Galton and Donders were the first to do experiments on reaction time. The original experiments were simple and attempted to study or measure the time taken by a person to notice a single stimulus and produce an appropriate response. Later experiments starting with the work of Donders tried to study reaction time in more complicated situations. In some situations, there may be several stimuli but a person may have to respond to only one of them, ie. he has to discriminate one stimulus from the others and respond. This is called discriminatory reason. Naturally this type of reaction is more complex than the simple reaction and hence takes a longer time. Still another type of situation is the one where a subject has not only to respond whenever anyone of a number of stimuli occurs, but has to make completely different responses depending on the particular stimulus. This involves not only a discrimination of the stimulus but also a choice of response. This is called 'choice reaction'. Naturally this takes the longest time.

Materials required: Reaction Time Apparatus and Chronoscope

Description of the Reaction Time Apparatus:

Reaction Time Apparatus: Time taken to respond to a particular stimulus should be measured from the onset of the stimulus up to the point of the beginning of the response. These two points should be made to be registered on an instrument which shows the elapsed time. In rough timing a stop watch can be used. Start the stop watch when the stimulus is given and stop it when the response is made.

But for reaction time of less than a second we need to have some automatic registration. A unit of 1/500 sec is probably fine enough for any reaction time work. hasta pans

Reaction time apparatus. It consists of a wooden board with a screen in the middle. On one side of the screen (the subject's side) there are two lights, red and white and two press keys. Each one of the keys is connected to one of the lights. If the key is pressed while the light is burning the circuit will automatically break and the light will go off.

On the other side, ie experimenter's side, there are a series of keys which serve to switch on the two lights on the subject's side. Along with this a buzzer is also fixed on the experimenter's side, and there is a key to which the buzzer also is connected. With the help of these keys, the experimenter can switch on or switch off the lights or the buzzer.

Chronoscope

Graphic and Scopic Registration: Kymograph on a photographic drum is used.

The Chronoscope: invented by Hipp which measured reaction time in units of Ims (1sigma) with an error consideration below 1%. 'Dunlop' a John Hopkin's-Chronoscope, is the grandfather of present electric clocks. Helmhotz used a Galvanometer DIL

Chronoscope: It is an electrically operated timing instrument which measures very short time intervals up to a millisecond.

The batteries or the electrical main, the chronoscope and the reaction time apparatus are connected in circuit. Whenever the experimenter switches on the lights or the buzzer, the chrono-scope also starts working and when the subject stops the chronoscope also stops. The reading in the chrono-scope gives the reaction time i.e. the time between the experi-menter's switching on the light and the subject's switching it off.

Errors in Chronoscope: All these instruments are subject to errors and they are of two types of constant error.

- **Terminal errors:** The results of the beginning problem or overshoot in stopping.
- **Running errors:** Facility speed of the running mechanism.

Procedure: The experiment is done in three series.

Series 1: simple reaction time
Series 2: discriminative time
Series 3: choice reactive time

Series1: Simple reaction time: the subject is seated comfortably and the following instructions are given. "You have got a red light here. As soon as you see the red light burning, press the key on your left hand side, as quickly as you can. The experimenter gives a few trials for demonstration. Now the experimenter starts the experiment. He presses the key for the light and as soon as the subject presses the key he notes the time in the chronoscope. Before switching on the light, each time a ready signal is given. The experiment is repeated about twenty times. The average reaction time for the twenty trials is calculated. The experiment could be repeated using the buzzer as the stimulus instead of the red light.

Series2: Discriminative time: This experiment involves presentation of two stimuli, ie. the red light and the white light on the different trials. The experimenter, therefore, prepares a preliminary list of stimuli, 40 in number (20 with red light, and 20 with white light) presented in a random order. The subject is given the following instructions, 'This time on some occasions you will see a red light and on some occasions you will see a white light, but you have to respond only if you see the white light. When-ever you see the white light, you press the key on your right side and stop the light. The experimenter as before presents the 40 stimuli, with a 'ready' signal on each occasion. The reaction time for the 20 white light trials are noted down.

Series 3: Choice reactive time. The procedure is more or less the same as for the discrimination action Le except the way of pressing the key. The same 40 stimuli are used but the instructions are as follow’s Again you will see on different occasions a white or a red light burning. Whenever you see light you have to stop it by pressing the left key. However,

you always must us the right hand to press the left key. On the other hand, if you see a white light you must press the right key with your left hand.'

As before the trials are given and the average reaction time taken. Again two auditory stimu may be used in the place of visual stimuli.

Results: the individual results for series 1, 2, and 3 are presented in table I

S. No	SERIES I	SERIES II	SERIES III
	Simple reaction time	**Discriminative reaction time**	**Choice reaction time**
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

Discussion:

1. The individual reaction time for each of the series time is discussed.
2 The individual reaction time for three series was compared.
3. Group data could be formulated and the mean for the three series could be compared.

Practical Application:

There are both scientific and practical applications to the reaction time methods. Short latency is an indication of strong response. It can be used in the study of motivation, distraction and discrimination. In Psychology, it is useful to time the responses. It helps in studying problems in learning and memory. This has an important practical application for automobilists. But this depends on the individual and the conditions. The aeroplane pilot while landing has to focus his eyes on his instruments panel and the landing strip alternatively. It is very useful here. The athletes focus at the start of a race. In everyday life we attend to a series of reaction time. This occurs at any time of emergency (major or minor) and calls for a prompt response. Reaction time also indicates certain psychological disorders and physical disorders. i.e., when a person is having some emotional problems he reacts slower than at other times on the physical side there may be some defects in the functioning of the sense organs. The reaction time offers a very useful measure to select people for different types of jobs requiring quick reaction. Comparative data on reaction time for different types of stimuli helps to arrange the most effective types of signals for different situations. It helps in counselling individuals.

Experiment 6

6. Level of Aspiration

Introduction

The question arises what does aspiration mean? Generally the meaning of the term level of aspiration bears an intimate relationship to the method used in determining goal setting behaviour

Hoppe (1930) defined the level of aspiration (LOA) as a person's expectations. goal or claims on his own future achievement in given task' On the basis of experimental analysis, Hoppe found that a given performance is accompanied by a feeling of failure if it falls below the LOA. and a given performance is accompanied by a feeling of success if it goes above the LOA. Therefore LOA according to Hoppe, was essentially qualitative in nature, he ascertains LOA through the following lines of evidence: (i) the subjective nature of an individual's goal. (ii) the occurrence of success and failure experienced after the goal is achieved, conflicting and decision taking experiences, and (iii) the influence of Immediate past experience on the subsequent level of goal setting behaviour. Not only this, Hoppe has also investigated the various factors which effect goal-setting behaviour He concluded that individual variations are found in level of aspiration. In his view, a realistic person always set a goal on the basis of his past experience keeping in view of his capabilities for doing a particular task. Thus, Hoppe conceived level of aspiration as a technique for studying dynamic factors which operate in the prediction of feeling of success and failure.

DETERMINANTS OF LEVEL OF ASPIRATION

Level of aspiration in usually influenced by two types of factors environmental and personal. In early childhood, before the child is old enough to know what his abilities. interests and values are, his aspirations are largely shaped by his environment. As he grows older and is more aware of his abilities and interests, personal factors have a greater influence, but many of his aspirations, his values, for example, are still environmental in origin.

Environmental Determinants

(i) Parental Ambitions-Parental ambitions influence the level of aspiration of the child. Parents always expect more from the first born, and therefore, the level of aspiration may be higher for the first born than that of those born later.
(ii) Social Expectations-Society expects more from some people than others. It is generally assumed that one who is successful in particular area may also be successful in other areas if he wishes.
(iii) Peer Pressure-Friends may encourage or discourage a child for anything. If they encourage him, it is possible that he will develop a tendency of high goal setting.
(iv) Culture Cultural traditions are important factors for setting the goal better and rich culture background helps a child in fulfilling high expectations
(v) Social Value-it also varies with the area of achievement. Social rewards and prestige also works as reinforcer.
(vi) Competition-Competitions with siblings and peers in the hope of showing better than others is also an affecting factor for level of aspiration
(vii) Group Cohesiveness-It is also considered as a determinant of goal setting One does better and sets high goal when he is acting in group

Personal Determinants

(i) Wishes If one's need to achieve something or he has high achievement motivation, his level of aspiration for achieving will be higher, and thus this wishes influence the level of aspiration

(ii) Personality-The personality characteristic also determines the kind and strength of his aspirations.

(iii) Past experiences-The previous success strengthens one's aspirations whereas failure weakens it.

(iv) Values and Interest-Personal values and interest also determine the extent of level of aspiration.

(v) Sex-It is generally found that boys have higher aspirations than girls because of their different interests, likings, goals and expectations of family and society.

(vi) Socio-Economic Background-It is noticed that middle and upper groups have higher degree of aspirations that those of lower group

(vii) Racial Background-Minority groups aspire higher than majority group. It is just a sort of compensation on the part of minority groups ups).

Aim: To measure the level of Aspiration of the subject.

Material: Level of Aspiration by Dr. Mahesh Bhargava.

Procedure

The following instructions which are also mentioned on the first page of the booklet are to be given to the respondent before the actual work begins:

"You are going to do a simple task. You have a page containing 50 circles in front of you and have to draw four lines in these circles, so that they may appear like a human face. You must draw the line in this sequence-Right eye, Left eye, Nose and Mouth. Work from left to right across the rows and then proceed to the next line"

For each trial 30 seconds are allotted for work and at the end of this time, you will be asked to stop the marking and count the number of completed faces and enter it in lower box. This trial will be treated as PRACTICE TRIAL In the following trials you have to do the same thing along with to put the number of face in the upper box which you intend to complete within 30 seconds time on the basis of last actual performance. Thus, you have to complete 10 trials for actual work."

The experimenter or test administrator should not say anything to subject excep "Are you ready?" "Go" 'and" "Stop". He should not make any reaction to the subjects performance. If a subject asks whether he is meant to fill in as many circles as he cam the experimenter should reply that he can do what he likes. Eleven trials are necessar because the practice trial is ignored in the scoring and last trial (Tenth) ensures that the subject will state a goal.

SCORING AND INTERPRETATION

The procedure of scoring is simple. It provides three types of scores: (1) Goal Discrepancy Score (GDS), (2) Attainment Discrepancy Score (ADS); and (3) The Number of Times the Goal Reach Score (NTRS).

1. **Goal Discrepancy Score (GDS)**

The extent and direction of the difference between actual score on the previous trial and goal set up of the next trial is known as goal discrepancy or G.D. Score, which is obtained by subtracting the actual score on a trial from the aspiration score (Goal Set up

score) for the next trial. Thus, in other words, goal discrepancy is the gap between aspiration for the next trial (expected score) and the immediate performance on previous trial According to Frank (1935) this goal discrepancy is a permanent characteristic of personality

A positive goal discrepancy suggests that one's goal is higher, in relation one's previous performance and a negative goal discrepancy indicates that one's goal is lower one's previous performance. It means if expected score on the next trial is more than the actual score on the previous trial, the GDS is termed as positive whereas if it is less than the immediate past performance the GDS will be negative. The size of the discrepancy shows how high or low one sets the goal relative to one's performance The general tendency by and large (Lewin et al, 1944) is to set the goal at little higher than the previous performance (ie, positive goal discrepancy)

If the difference of scores are consistently positive (or expected score is more than the actual score) it indicates that the subject seldom attains the goal he sets for himself and we might say that he or she is over aspirant expects more and does less or he may be called idealistic. If the differences of scores are consistently negative (or the expected score is less than the actual score) it indicates that the subject does better than he says and we might call him as under aspirant-does more and expects less.

Goal discrepancy may also be interpreted in terms of ego-involvements. If the goal is set up seriously by the subject and if he really expects to make that score, then it might be said that the subject is ego-involved and if he fails to achieve that score, he is not ego involved and below his self-esteem.

2. Attainment Discrepancy Score (ADS)

Related to the concept of goal discrepancy is the attainment discrepancy (Lewin ef al, 1944). It is the difference between aspiration (expected score) and the achievement (actual score) on the same trial.

TABLE 1

Trail. No	Expected Score	Actual Score	GDS (Expected Score-Actual Score on Previous Trial)	ADS (Actual Score-Expected Score on Same Trial)	NTRS

Thus in order to obtain ADS expected performance is subtracted from the actual performance. Therefore, ADS is positive when actual performance is more than expected performance and negative when expected performance is higher than the actual performance (here actual performance is treated as criterion level). The size of the discrepancy shows the extent to which one surpasses of fails to reach his goal.

Experiment 7

7. LOCUS OF CONTROL

INTRODUCTION:

Locus of control refers to an individual's perception about the underlying main causes of events in his or her life. Julion B Rotter in 1954 viewed that people hold expectancies and these expectancies inference behavior. These expectancies are mental representations based on past outcomes and situation they now Bonfront, these things then influence their judgment of the likelihood of getting their desired outcome. Thus their expectancy integuments have a causal influence on their behavioral choices.

Rotter believed that if you see a link between behaviours and reinforcers then your behavior is affected by the reinforcers. If you don't see the link, then you react less predictably to reinforcers. The term Rotter coined for these beliefs about whether a behavior will meet with a rewarding outcome was 'Locus of Control'. Locus mean 'place'

A Locus of Control orientation is a belief whether the outcomes of our actions are contingent on what we do (internal control orientation) or on events outside our personel control (external control of orientations). Thus Locus of control is conceptualized as referring to a unidirectional continuum, ranging from external to internal.

External Locus of control

Individual believes that his/her behavior is guided by fate, luck or other external circumstances.

Internal Locus control

Individual believes that his or her behavour is guided by his/her personal decisions and efforts. Internals can be psychologically unhealthy and unstable. An internal orientation usually needs to be matched by competence, self-efficacy and opportunity so that the person is able to successfully experience the sense of personal control, and responsibility. Overly internal people who lack competence, efficiency and opportunity can become neurotic, anxious and depressed

Externals can lead easygoing, relaxed, happy lives. In general, if seems to be psychologically healthy to perceive that one has control over those things which one is capable of influencing

I-E locus of control has emerged from the research of Rotter. The questionnaire has 29 items. It is a forced-choice self-report inventory

Problem

To assess the subjects internal-external dimensions in personality.

Material required

1. LE. Locus of control questionnaire
2. Answer sheet.
3. Manual

Procedure

The subjects are made to sit comfortably in a chair and rapport is established. They are given with LE. Locus of control questionnaire. They are asked to fill up the particulars pertaining to the subject. The following instructions are given, while I read the instructions about you look into the same on the front sheet of the questionnaire. This is a questionnaire to find out the way in which certain events in our society affect different people. Each item consists of a pair of alternatives differed a & b. Please select one statement of each pair only one) which you more strongly believe to be the case as far as you are concerned. Be sure to select the one you ritually believe to be more true rather the one you think you should choose or the one you would like to be true. This is a measure of personal belief. These are no right or wrong answers.

Please read these items carefully, and do not spend too much of time on any one item. Be sure to answer all the items.

In some instances you discover that you believe both statements or neither of them. In such cases be sure to select the one you more strongly believe to be true or false as you are concerned. Also try to respond to each item independently when making a choice, do not be influenced by your previous choices, select any one statement and make a circle around it."
With there in structure the subjects are asked to start responding to the statements.

Scoring

The scoring is done with the help of the scoring key given in the manual.

Results

The individual scores and the group scores are tabulated in the tables 1 & II.

Table I: Showing the individual subjects scores on I-E Locus of control

Name of the Subject	I-E score

Table II: Showing the group scores on I-E Locus of control

S. No	Name of the Subject	I-E Score
1.		
2		
3.		
4.		
5.		
6.		

7. 8. 9. 10.		

Precautions

All the items have to be attempted. No item to be left unanswered.

Discussion

1. Discuss whether the individual subject is internally or externally oriented.
2. Discuss how many in the group are internally or externally oriented.
3. Compare the individual orientation with that of the group.

Conclusion

Draw conclusions from the results obtained of the individuals & group's orientation and the individual's orientation were compared to groups orientation.

Application

The Locus of Control Test is applicable to fields such as Educational Psychology, Health Psychology or Clinical Psychology. Locus of Control Test is proven to have the ability to predict several work outcomes, specifically, job satisfaction and job performance and selection of applicants for different types of managerial positions. The test is extensively used to identify what kind of effect locus of control has on students' learning performance.

Experiment No. 8

8. SOCIOMETRY

INTRODUCTION:

No man can live an isolated life. Interaction with other human beings is inevitable. When an individual is interacting with others in any given social setting there would invariably be an influence of others on him. It is very difficult for a human being to avoid a social context. Thus every human being is a social being and acts in response to social stimulus Social stimuli can be other people, or an act of other people. Therefore social psychologists are highly concerned with the study of social stimuli, social behavior and social interaction. Behaviour in a social context involves the consideration of social stimulus and social behavior. It may be describing the type of behavior like frustration, aggression, affiliation, affection, domination etc that occur in social situation. So, psychologists want to study the behavior of an individual in a social situation by analyzing a small group of people's behaviour

When we are saying a small group we are referring to a group of people who are in close interaction with each other and are aware of their likes and dislikes. These types of relationships may be called as interpersonal attraction and here there is mutual help and attraction. There is also a feeling of security among the members. The reason for this close type of relationship may be because they share the similar type of attraction they have good interpersonal relationships, they live close to each other, they have common goals and motives etc.

What is interpersonal attraction: We all know that personal appearance is the main basis for attraction between strangers to take place. Similarity is another factor which may promote interpersonal attraction. The cultural group with sere cultures can also be the bases for interpersonal attraction. People having similar attitudes, values or prejudices get attracted towards each other and this also may be a cause for interpersonal attractions. Thus, we know that when people are physically attractive, have similar culture background and share the same opinion, values, believes and attitudes, and are frequently interacting with each other, interpersonal attraction develops Thus to study the interpersonal attraction experimentally, a study has been planned on a group of people. It is easy to ask people directly who are the people they like or dislike. But to ask such a question directly is difficult because people may hesitate and not give an authentic answer right away Therefore the same question can be put indirectly involving certain recreational activities and interests. The number of times each member of a group is preferred by other is the indication of his her attractiveness. In the same way, how many of them in a group disliked or ignored a member can also be rated. Thus the method of measuring interpersonal attraction is called sociometry. Sociometric method was developed by J.L. Moreno in 1953. This method was extensively used in studying the social structure of work group, play group, student groups in classrooms. This method was also used for measuring interpersonal attractiveness of individual group members. This method of sociometry had certain similarity Bogardus (1933) scale of social distance in the beginning and later certain changes were made. The main difference of this method from the earlier technique is that it is chiefly concerned with attraction and repulsion between individual within a small group

Helen Jennings (1948) an associate of Moreno stated that sociometry may be described as a means of presenting simply in score and graphically the entire structure of relationships

that existed at a particular time among the members of group. The important lines of communication or the model of attraction or rejection in various degrees are readily understandable at a glance
Jennings also gave three important characteristics of this technique.

(a) Specific member of choice should be allowed, the choices be varying according to the number of members in the group to be tested
(b) A specific standard of choices should be used and it should be varying with functional activity of a group.
(c) Different degrees of preference should be designated for each choice in member

Hence while applying the method to measure interpersonal attraction in any situation three choices are allowed for each person and the situation must be defined as one in which the criterion for selecting the other person in a group must be a real one to the group being tested.
The levels of choice should be designated as follows
(a)Number 1 should be given to the person they like most
(b) Number 2 to the 2nd choice and
(c) Number 3. to the 3rd choice.

However, they can be number of variations depending on the situation one is testing for, in a school we may ask the children to say with whom he/she likes to play, or eat, etc. The situation must be a real one for the persons to relate to it easily

The choices in situation may be varied like. They may be mutual choice, choosing each other among the two in a group. This mutual acceptance indicates the cohesiveness of the group. They may be a star attraction, one who is liked by many in a group. He is called as a natural leader. They may be isolates among the group member that is the one who is not liked by anyone in the group. There may be cliques, few members choosing one another among themselves and no one else

This method is extensive used in social psychology research. It is used to find the leadership potential, dispute, personal warmth, ambition, etc The choices of each members is diagrammatically represented which is called as sociogram, it is drawn to the data which is generated in the form of preference and these preference are presented in the table called sociometric matrix. Sociometric data are reported in terms of number of choices made by each member Lindgren (1974) points out that sociogram has provided with one additional advantage to the experimenter that he can have overall view of the preference of the social group and also see the interpersonal and social attraction prevailing in the group

EXPERIMENT

Problem
Study the interpersonal attraction of a small group or study the spontaneous group formation in a given small group.

Participant
Choose a small group or a class consists of 10 to 16 students. Collect personal information of those students like, age, sex, religion, occupation of parents, wear spectacles or not, other physical deformities. The participants are named as A, B, C, D, E, F, G, H, I, J, K and L..

Materials

A slip contains one question, three situations

Procedure

The test may be conducted by the class teacher himself as the experimenter as the class consists of only 12 students. If it is a big class it may be divided into 2 or 3 or 4 groups and each group may be assigned with one situation. Since the test is conducted in a 12-member group the experimenter gets ready 12 slips in which the following question may be written and the following instructions are given.

"You are arranging your birth day dinner for your friends in a Hotel. Who are the three students from this class you will choose and invite for the dinner? Give the names in the order of preferences as 1st, 2nd and 3rd. Answer the question confidentially and fold the paper and hand it over to me."

Then the experimenter (teacher) distributes the slips to all the 12 students. The students as soon as they answered the question, fold the paper and return to the experimenter. If necessary two more situations may be assigned. For example, going for picnic, as play-mates, room-mates, going to a picture and so on may be assigned and student may be asked to choose any three in order of preference as first choice, second choice and third choice.

Here, every student should think that he as an experimenter who conducts the experiment.

Results

Prepare sociometric matrix and have the names of the students as the chooser and chosen. It should be arranged in rows and columns. This is called sociometric matrix. Enter the choices of all 12 students (A to L). Each student makes 3 choices in order of preference. For example A makes 3 choices. Whom he preferred first? Write 1, below the name whom he preferred at first, similarly, the second and also the third. Enter the 3 choices made by all 12 students in the matrix. Work out the total of the first choices, second choices and third choices in the row and lastly the sum total of all the three choices. A model of sociometric matrix with a source data is given in the Appendix-1,

From the matrix find out who has received the highest first preference and who has received the lowest preference. Who has received the highest second preference and who has received the lowest? State, who has received the highest third preference and who has received the lowest third preference?

Draw the diagram, the sociogram presenting the data from the Matrix in the figure. Indicate who are the stars and cliques, isolates and actually attracted. A model of sociogram drawn to some data is given in Appendix-II

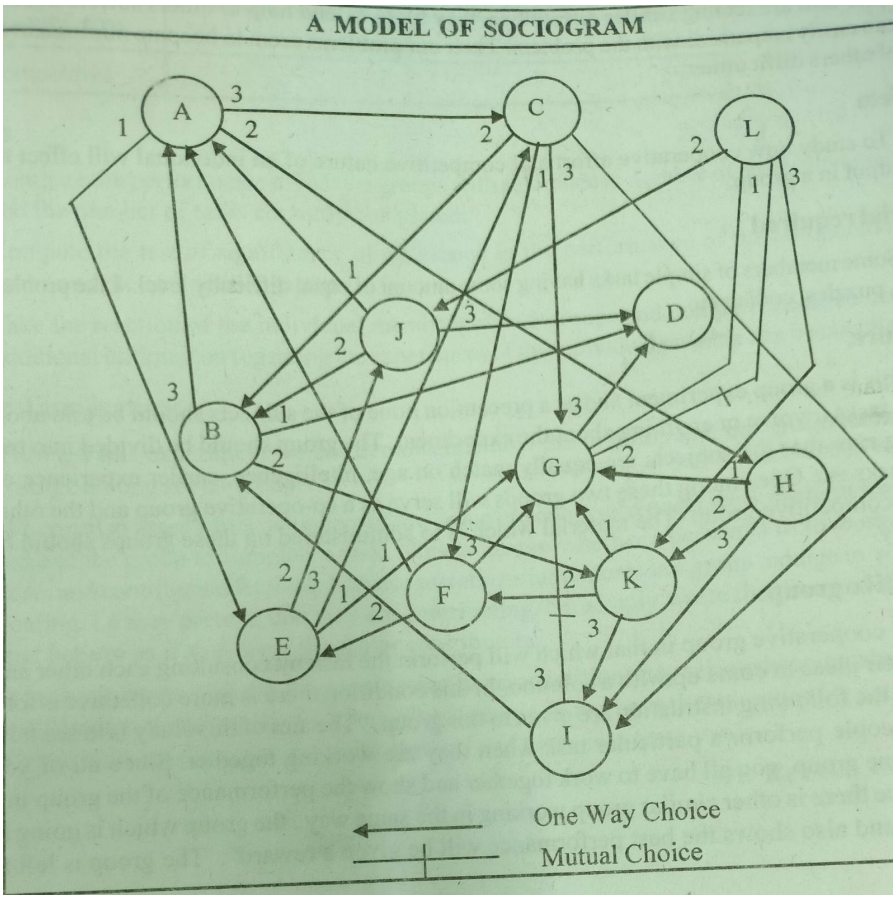
Discussion

Discuss the results as given in the matrix. What frequency each student shows of being chosen? Who is having the highest frequency of being chosen by the group members. State if there is any reason for being chosen with highest frequency. Who is the second best in the group chosen. State the reason, if any for the same. Who is the third best chosen in the group? State also the reason for the same. Is there any natural leadership? How it occurs? Is there any cliques? Who are they? How many isolates are there?

Whether there is any interpersonal attraction? Discuss all these in the light of the earlier studies given in the introduction.

Sociometric Matrix (A Model Matric)

Chooser	A	B	C	D	E	F	G	H	I	J	K	L	Total
A			3					2					6
B	3			1							2		6
C		2				1	3						6
D													-
E			3			1				2			6
F	1				2		3						6
G				3					2			1	6
H							1		3		2		6
I		1	2				3						6
J	1	2		3									6
K						2	1		3				6
L							1			2	3		6
1ST Choice	2	1	-	1	1	1	4	-	1	-	-	-	11
2nd Choice	-	2	1	-	1	1	-	1	-	2	2	1	11
3rd Choice	1	-	2	2	-	-	3	-	2	-	1	-	11
Total	3	3	3	3	1	1	7	1	3	2	3	1	33



Conclusions

Is there any star? How many?
Is there any clique? How many? What it indicates?
Is there any isolate? How many?
Are there mutual attractions? Who are they?

Experiment No. 9

Emotional Intelligence

INTRODUCTION:

Emotional Intelligence motivates employees to pursue their unique potential and purpose, and activates innermost potential values and aspirations, transforming them from things they think about, to what they do. Emotional intelligence enables one to learn to acknowledge and understand feelings in ourselves and in others and that we appropriately respond to them, effectively applying the information and energy of emotions in our daily life and work. Cooper and Sawaf (1997) define emotional intelligence as the ability to sense, understand and effectively apply the power and acumen of emotions as a source of human energy, information, connection and influence. Mayer and Salovey (1993) define emotional intelligence as the ability to monitor one's own and other's feelings and emotions to discriminate among them, and to use this information to guide one's thinking and action.

Emotional intelligence involves the ability to perceive accurately, appraise, and express emotions; the ability to access and/or generate feelings when they facilitate thoughts; the ability to understand emotions and emotional knowledge and intellectual growth.

Factors of Emotional Intelligence

The scale was administered on 200 executives and the scores obtained were subjected to factor analysis and ten factors were identified (Table 3). These are self awareness, empathy, self motivation, emotional stability, managing relations, integrity, self development, value orientation, commitment and altruistic behaviour.

(A) Self-awareness is being aware of oneself and is measured by items 6, 12, 18, 29. These items are "I can continue to do what believe in even under severe criticism", "I have my priorities clear", "I believe in myself" and "I have built rapport and made and maintained personal friendships with work associates." This factor is the strongest and explains 26.8 percent variance and has a total factor load of 2.77. The correlation of this factor with total score is 0.66.

(B) Empathy is feeling and understanding the other person and is measured by items 9, 10, 15, 20 and 25. These are "I pay attention to the worries and concerns of others", "I can listen to someone without the urge to say something", "I try to see the other person's point of view", "I can stay focused under pressure, and "I am able to handle multiple demands." This factor explains 7.3 percent variance with a total factor load of 3.11. The correlation of the factor with total score is 0.70.

(C) Self Motivation is being motivated internally and is measured by 2, 4, 7, 8, 31 and 34. These items are "People tell me that I am an inspiration for them", "I am able to make intelligent decisions using a healthy balance of emotions and reason", "I am able to assess the situation and then behave", "I can concentrate on the task at hand inspite of disturbances", "I think feelings should be managed", and "I believe that happiness is an attitude". This factor accounts for 6.3 percent variance and a total load of is 3.28. Its correlation with total score is 0.77.

(D) Emotional stability is measured by items 14, 19, 26 and 28. These are "I do not mix unnecessary emotions with issues at hand", "I am able to stay composed in both good and bad situations", I am comfortable and open to novel ideas and new information, and "I am persistent in pursuing goals despite obstacles and setbacks". This factor explains 6.0 percent variance with a total factor load of 2.51. The correlation of this factor with total score is 0.75

(E) Managing relations is measured by 1, 5, 11 and 17. The statements that measure this factor are "I can encourage others to work even when things are not favourable", "I do not depend on others" encouragement to do my work well", "1 am perceived as friendly and outgoing", and "I can see the brighter side of any situation". This factor explains 5.3 percent variance with a total factor load of 2.38. The correlation of this factor with total score is 0.67

(F) Integrity is measured by items 16, 27 and 32. "I can stand up for my beliefs", "I pursue goals beyond what is required of me", and "I am aware of my weaknesses are the statements that measure this factor. This factor explains 4.6 percent variance with a total factor load of 1.88.

(G) Self-development is measured by items 30 and 33 which are "I am able to identity and separate my emotions" and "I feel that I must develop myself even when my job does not demand it and explains 4.1 percent variance with a total load of 1.37.

(H) Value orientation is measured by items 21, 22. The statements are "I am able to maintain the standards of honesty and integrity", and "I am able to confront unethical actions in others" and explains 4.1 percent variance with a total factor load of 1.29.

(I) Commitment is measured by the items 23 and 24. "I am able to meet commitments and keep promises", and "I am organized and careful in my work" measure this factor. This factor accounts for 3.6 percent variance with a total factor load of 1.39.

(J) Altruistic behaviour is measured by the items 3 and 13. The items are "I am able to encourage people to take initiative", and "I can handle conflicts around me". It explains 3.0 percent variance with a total factor load of 1.3.

Aim: To measure the emotional intelligence of the subject.

Material: Emotional Intelligence scale EIS-HPD by Anukool Hyde, SanjyotPethe, Upinder Dhar.

Instructions for Administration and Scoring

1. The instructions printed on the response sheet are sufficient to take care of the questions that are asked.
2. No time limit should be given for completing the scale. However, most respondents should competed it in about 10 minutes.
3. Before administering the scale, it is advisable to emphasize orally that responses should be checked as quickly as possible and sincere cooperation is sought for the same. The responses should be kept confidential.
4. It should also be emphasized that there is no right or wrong answer to the statements. The statements are designed to understand the differences in individual reactions to various situations. The scale is meant to know the difference between individuals and not meant to rank them as good or bad.
5. It should be duly emphasized that all statements have to be responded to and no statement should be left unanswered.
6. It is not desirable to tell the subjects the exact purpose for which the scale is being used.
7. Though the scale is self-administering, it has been found useful to read out the instructions printed on the response sheet to the subjects.
8. Manual scoring is done conveniently, hence no scoring key is provided.
9. Each item or statement should be scored 5 for strongly agree, 4 for agree, 3 for Uncertain, 2 for disagree and 1 for strongly disagree.

Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree

Result

Table 1 Showing the factor wise interpretation of raw score
Table 2 Showing the interpretation of group data

Discussion

The results thus obtained are discussed as per the levels of different factors. Like self awareness, empathy, self motivation, emotional stability,
Managing relation, integrity, self development, value orientation, commitment, and altruistic behaviour.

Conclusion

The Emotional Intelligence of the subject is _____

Experiment 10

10. EMOTIONAL MATURITY

INTRODUCTION:

The study of emotional life is now emerging as a descriptive science in view of the recent fast coming developments in our environment. These changes are giving rise to many psychosomatic problems such as anxiety, tensions, frustrations and emotional upsets in day to day living. The study of emotional life deals with an Interplay of factors with different intensities and quantities. Walter D. Smitson (1974) defined that emotional maturity is a process in which the personality is continuously striving for greater sense of emotional health, both intra-psychically and intra-personally. Actually, emotional maturity is not only effective to determine personality pattern but also helps to control the growth of adolescent's development. The concept "Mature" emotional behaviour of any level is that which results the fruits of normal emotional development.

Kaplan and Baron elaborate the characteristics of emotionally mature (EM) persons. Accordingly EM person has the capacity to withstand delay in satisfaction of needs; has the ability to tolerate a reasonable amount of frustration; has belief in long-term planning and is capable of delaying or revising his expectations in terms of demands of situations; he has the capacity to make effective adjustment with himself and as a member of his family/school/society and culture. On the other hand, emotionally disturbed person reacts like a child, looks for sympathy, conceited, quarrelsome, self-centred and demanding person (Gibb, 1942, Cattel, 1945).

Aim: To assess the level of emotional maturity of the subject.

Materials: Singh & Bharava's Emotionally Maturity scale, Manual and scoring key.

Procedure:

The subject is asked to sit comfortably in front of the testing table and is administered the EM Scale. The following instructions are given to the subject.

"See in the following pages are given 48 questions about yourself. Each statement is provided with five possible responses, such as: VM very much, M Much; UD Undecided; P Probably and N-Never. Read each question carefully and mark tick on any one of the five alternative responses to indicate your level of agreement with the particular content of the question. There are no right or wrong. answer, you can indicate what you feel. Your responses would be kept confidential". After completion of the test, the items are scored according to the test scoring procedure.

Description of EMS:

The present EMS scale covers five broad factors of emotional maturity such as (a) emotional unstability (EU) (b) emotional repression (ER) (c) Social maladjustment (SM) (d) personality disintegration (PD) (e) lack of independence (LI).

Emotional unstability is a broad factor representing syndrome of lack of capacity to dispose off problems, irritability, needs, dependency, vulnerability and stubbornness. Emotional repression is a group of factors representing syndrome as feeling of inferiority, restlessness, aggressiveness and self centredness. Social maladjustment subscale shows lack of adaptability, hatred, seclusive but boasty, uttering lies, etc. Personality disintegration

represents disintegration of personality, like reaction, Phobiac, rationalization pessimism, uncertainty etc. Lack of independence represents parasitic dependence on others, lacking objective interests, etc.

Scoring:

EMS is a self reporting scale has 48 items under 5 categories. First four areas have 10 items and the last area, lack of independence, has 8 items.

Results & Discussion:

1. Table-1 shows the subject's data obtained on Emotional Maturity Scale.

S.No	Name of Subject	EU	ER	SM	PD	LI	Total	Interpretation
1								
2								
3								
4								
5								
6								
7								

2. Table-2 shows group data pertaining to Emotional Maturity Scale.

S.No	Name of Subject	EU	ER	SM	PD	LI	Total	Interpretation
1								
2								
3								
4								
5								
6								
7								

Discussion

1. Discuss individual's level of emotional maturity.
2. Report and discuss your subject's level of maturity in each sub area of emotional maturity scale.

3. Mention who scored high and who scored low on the EMS in the group and interpret the results.
4. Discuss the implications of the results.

Conclusions

1. Report the level of emotional maturity of your subject.
2. Mention the variations in the group data.

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Smt. S. Anupama

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