

AN INVESTIGATION OF RECOGNITION OF
FACIAL EXPRESSIONS OF FIVE EMOTIONS: A
STUDY AMONG YORUBA CULTURE

BY

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TABLE OF CONTENT

	Page
Title Page	
Approval Sheet	ii
Dedication	iii
Acknowledgement	iv
Abstract	vi
Table of Content	viii
CHAPTER 1: INTRODUCTION	1
CHAPTER 2: BACKGROUND LITERATURE	15
2.1 Definition of Emotion	15
2.2 Expression and Perception of Emotion	18
2.3 Theories of Emotion	22
2.4 The Yoruba Culture	34
2.5 Recognition and Imitation of Facial Expression in Yoruba Culture	38
2.6 About This Study.	42
CHAPTER 3: AIMS AND HYPOTHESES	43
CHAPTER 4: EXPERIMENTAL METHODOLOGY	44
4.1 Sample	44
4.2 Test Administration and Scoring	46
4.3 Data Matrix	47
CHAPTER 5: ANALYSIS OF DATA AND RESULTS	48
CHAPTER 6: CRITIQUE, CONCLUSION AND DISCUSSION	51

<u>Table of Content continued...</u>	Page
6.1 Critique	
6.2 Conclusion	
6.3 Discussion	
BIBLIOGRAPHY.	
APPENDICES: I List of random presentation	
II Identification of Photograph	
III Identification of Scores	
IV Data Matrix.	

APPROVAL SHEET

This research work has been read and approved
as meeting the requirements of the Department
of Education, Ahmadu Bello University, Samaru - Zaria.

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DEDICATION

This work is dedicated

To my dear ISA who made so many things possible of which this project is the least

To my sisters ADETUTU AND PUPE AND ADEMOLA my brother

To my mother AIRAT and finally to all Psychology students.

ACKNOWLEDGEMENT

During the course of my study, a lot of people gave me their time, energy and confidence. I was twice blessed every foot of the way with uncommon co-operation and faith.

It is unfortunate, but the sheer weight of numbers precludes my thanking everyone here. Such listing would fill a volume in itself.

I would be less than grateful if I do not acknowledge the effort of Dr. A. Mukherjee of the Department of Education, Ahmadu Bello University who was truly instrumental in making my project work a reality. He directed and supervised it to the final conclusion. Suffice it to acknowledge his understanding and interest in initiating and supervising researches in the field of Educational Psychology in Africa as a whole. His pushful attitude, encouragement and proper sense of direction have creased my zeal and kept me striving to reach the logical conclusion of this endeavour.

My thanks are also to Iyabo Fadipe - a student of Ahmadu Bello University, Sadik Isa - a secretary, for their many and varied forms of assistance that have enabled me to tackle this arduous task to its final conclusion. I thank Dr. K. Adeyarju, Dean Post Graduate school, Ahmadu Bello University for sharing with me his vast knowledge of the subject.

Above all my most humble thanks, gratitude and love goes to Isa A. Bukar, of Jos Steel Rolling Company, who share with me over this period of academic pursuit, the multiple effects, the tribulations as well as the joys and delight associated with the completion of an arduous post graduate research work in Educational Psychology.

ABSTRACT

This study looks closely at Tomkins (1962,1963) theory of emotion which relates the central nervous system (CNS) activity with the behaviour of facial muscles in the facial expressions of emotions. The sample of this study consist of one hundred adult subjects both male and female, selected from the Yoruba cultures of Nigeria, e.g., 50 male Yoruba adults and 50 female Yoruba adults.

In this study the investigator is concerned about the facial expression of the following five emotions of Happiness, Sadness, Anger, Fear and love of both males and females of the Yoruba culture of Nigeria. Most people expect emotions to be expressed in a person's face in a particular way separate from the of it.

Photographs of both male and females of the Western film, Indian film, Chinese film and Nigerian film stars posing for each of the following emotions of happiness, sadness, anger, fear, and love were presented to the subjects for recognition one by one.

A questionnaire containing questions about the facial expression of emotions posed on the various photographs was also presented, to each of the subjects. Analysis of data was done by using the university computer with the programme of T-test. This test calls for interval scale measures. For each of the five emotions the investigator calculated the t-values and tested those for significance.

The results showed that there were no significant differences in the recognition performance by the subjects of the four different cultures as far as the emotions of sadness and happiness were concerned. Moreover, the same significant results were obtained for the facial expressions of "Love" when they were obtained from the female actors only.

The study is concluded with some discussion and criticism of the Tomkins theory of emotion.

Chapter 1

INTRODUCTION

The study of emotions has long been outside the mainstream of psychological research, and many psychologists have come to see it as an almost extraneous phenomenon, interfering with scientifically "lawful" behaviour. For that very reason, attempts to organize systematically the range of human emotions, or even to catalogue and describe them fully, are few and rarely complete.

Psychologists prefer to speak of "emotional factors" or "emotional behaviour", rather than of "emotion". Its genesis is extremely complex and there is evidence that both psychological and physiological factors govern its appearance in consciousness. "Emotion" is a very difficult word to translate into behavioural terms. That is, it is possible to classify one kind of behaviour as more "emotional" than another, but when it comes to identifying "emotion" as a separate entity or "thing", there are bound to be difficulties.

One schema that may be used to characterize specific emotions and to differentiate among them includes the following general dimensions: intensity of feeling, level of tension (or impulse to action) hedonic tone (degree of pleasantness or unpleasantness), and degree of complexity. They include, among others, the primary (or directly goal oriented) emotions, emotions triggered by sensory stimulation, those pertaining to selfappraisal, and those related to other people.

Descriptions of specific emotions illustrating these types, if they are to convey the richness and subtlety of human feelings must at the moment be more literary than formal and rigorous in their focus. A blending of these two orientations to provide a scientifically precise yet comprehensive conceptualization of human emotion must await further research and theoretical developments.

There are a few questions that have always agitated those who have reflected on emotion. First of all, what is emotion? How is it aroused? Is it a purely psychological experience?

If it is, what is the connection with the physiological change so noticeable in emotion? We have all experienced the blush of embarrassment, the nausea of disgust, the tremor of defeat and the excitement of anger. Are these sensations the result of Emotions or their cause? Do emotions have a dynamic quality? If not, what accounts for the urge to flee in fear, to fight in anger? How do we recognise emotions? What do we know about brain function in emotion?

The first experimental psychologist, Wilhelm Max Wundt (1832-1920) and Titchener (1908), to analyse emotion into their consistent elements, in imitation of the procedure of the physical sciences. For Wundt, feelings were elements into which emotion could be analysed. For Titchener, they were elements from which emotions could be reconstituted.

Psychoanalysis also links emotions with instinct. For Freud, emotions are the consciously experienced affect charges of the twin instincts of love and aggression. For Jung, emotion is the conscious accompaniment of unconscious archetypal forces. In both cases,

the emotion is the representative of unconscious instinct. For psychoanalysis as for Gestalt psychology, emotion remains a significant experience, this is true also for two exponents of Gestalt point of view. All these psychologists, with the exception of plntchik, think of emotion as an experience of some kind, no matter what the definition they offer. But the behaviourist trend of the twenties soon led to discussions of emotional behaviour rather than emotional experience, and eventually produced the notion that emotion is either a chapter heading best done away with because it can be better explained as intense activation (Duffy) or a hypothetical construct used to explain emotional behaviour (Hebb).

It was not until the late fifties that the view of emotion as organized response came to the fore. Arnold and Gasson, defined it as a 'felt tendency' leading to action, while Lazarus saw it as an example of coping behaviour, and Leeper insisted that it is a perceptual motivational process. Pre-scientific theories

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Pre-scientific theories had assumed that emotion is a felt experience that produces bodily changes (circulatory, for Lange, Viscera, for James) and that these changes are then experienced as emotion. But gradually, more and more voices were raised against it, by psychologists (Lehmann) and

physiologist (Cannon 1931) alike.

This view presented here does not restrict the concept of emotion only to the primate level, the mammalian level, or even the vertebrate level; emotion should be conceived of as relevant to the entire evolutionary scale. This suggests that emotion should be related to some kinds of basic, adaptive, biological processes - a point mentioned below.

A second implication is that a decision about which derived should not depend only on adult introspections, even though introspections may be useful in providing additional insights into the internal stimuli associated with certain adaptive reactions.

Thirdly, although emotions may depend for expression on the integrated action of certain neural structures they cannot be identified solely in terms of neural structures, for these structures change considerably in the course of evolution.

Magda Arnold (1950) has marshalled recent arguments for the view that most emotions involve an irritative

appraisal of a stimulus as good (beneficial) or bad (harmful). Emotion can also be easily regarded as an intervening variable which precedes the response or terminal behaviour, i.e., a variable which precedes the response or terminal behaviour. It is a process which results in the final behaviour. It is the hyphen between stimulus and response. It is bond, relationship between S and R. It is mostly triggered off from some sources, usually the cortex, after some cognition has taken place. This cognition is carried through the sensory nerves, to the cortex where the message is decoded and emotions are generated. These emotions then determine the terminal behaviour.

For example "crying" is a behaviour distinct from its antecedent emotion which may be "pain", "grief" or even "happiness". Following the above arguments, it would be wrong to say that "crying" is an emotion. Also "crying", "fighting", "laughing" etc are examples of overt behaviour and their respective antecedent emotions which may be respectively pain, anger, and

happiness, are example of covert behaviours, better known as process or intervening variable. Conceptually speaking the following model shows where emotion lie viz, source (stimulus) - (EMOTION) - Goal (Response) (Mukherjee, 1982). This clearly shows the major difficulty which besets the academic study of the subject, emotion. Strongman (1978) points that any theory of emotion or any empirical research on emotion deals only with some part of the broad meaning that the term has acquired. Some theorists deals with extremes, some say emotion colours all behaviour. With the sole exception of smiling, it has proved impossible to discover any constant pattern of emotional expression diagnostic of any one specific emotional state. Strongman in his book titled "The Psychology of emotion, argues that it is impossible to make conclusive statements about the whole subject merely from ideas or research in only one of its aspect. Cultural factors, moreover, standardized emotional expression in very different ways and basis of many affective responses once considered innate is now open to serious doubt.

The rationalist bias of the early psychology gave scant scope for the study of emotion. It was not, indeed, until Darwin was drawn my attention to the biological significance of emotional expression that the subject was drawn into the orbit of scientific inquiry.

The purpose of the study was to examine Tomkins's (1962,1963) theory of emotions which relates cerebral nervous system (CNS) activity with the behaviour of the facial muscles in the facial expressions of emotions. According to this theory facial expression of primary emotion are determined by biology rather than by social learning. Granting the above theory to be true, it follows that the facial expression of primary emotions will be the same in human being of all different cultures.

There is however reason to believe that many of these emotion evolved much later in history of evolution of homosapiens. To imagine the first generation of the homosapiens devoid of any language, any means of agriculture, but manifesting all these different emotions

from the very first day of their existence is too far fetched. Early man were completely at the mercy of nature and other wild life. Their survival depended primarily on two aspects namely:-

1. Luck or chance factor and
2. Communal living in groups.

The female species of the homospicins, it is said, discovered agriculture which was much later while the male species of the homospicins being more powerful and agile on their feet were responsible for the supply of food. Initially therefore these early men survived on the game the male members could kill and bring to the community. The stone weapons were discovered much later in the history of evolution. Cannon's (1932) theory of homeostasis about the primary drive of hunger shows clearly how the stomach walls contract when the stomach is empty and send certain message to the cortex which is decided to generate motor behaviour leading to the search of food and also shows that after food is taken how the stomach muscles relax and the state of homeostasis or equilibrium results.

When we consider some other emotions like anger, fear and love, the investigator's hunch is that there are emotions which evolved thousands of years after the evolution of the homosapiens. Taking anger as an emotion, its corresponding behaviour will be verbal or non verbal or physical aggression. The question of verbal aggression do not arise in the case of the first generation as there was no record of language. There are many cultures and societies where pacifism is the life style of the members. Bateson (1969) reports that among the Hutteries aggression is unknown. Anger as the antecedent emotion of aggression as a behaviour it is reasonable to assume that the emotion of anger evolved much later in the history of mankind.

There are many families in many different cultures where children are reach to grow up without experiencing any kind of fear and there are many homes in many different cultures where parents control their children by inducing fear into them by saying that the ghosts or monsters are waiting outside to kill and eat you. So children grow up with differential

experiences with various sources of fear viz, masquerade, the child catcher, ghosts, magicians: monster, etc. When different levels of experience of fear exist in different degrees in different cultures and homes, then there are reasons to believe that there will be differences among different cultures in recognizing facial expressions of fear as an emotion and in that case Tomkin's species-constant theory of emotion will not be supported in that respect.

Love is another emotion which the investigator believes is the product of civilized living in a sophisticated society. There are many societies and languages where the concept of love is almost non-existent. Love and sex can be distinguished from each other from their respective Psychological view point. A youth in love is able to see his quite ordinary looking sweetheart as beautiful. It has been said that people perceive what they want to perceive, and there is truth in the assertion. Normally our perceptions are not wholly at the mercy of our wishes. Sex is another primary drive which is explained by Cannon's theory of homeostasis.

The need for sex may not necessarily be associated with the concept of love, though the need of being loved and to love is usually associated with sex. Love in this context is restricted to imply love as an emotion as experienced by two oppositely sexed adults, thereby excluding love within mother and son, between father and son, love between brothers or between sisters or between brothers and sisters and even love of a person for his discipline or profession, etc. This can be viewed from another angle. The female species of the first generation of homosapiens were certainly more dependent on their male species than the female members of the society of today.

There are numerous and alarming increase in number of divorces taking place everyday. Marriage guidance counselor and psychologists view the break off of marriages as primarily due to lack of love between the marital partners. Their advice mostly to the women is to make their husbands or partners feel their love for them, if their marriage is to succeed. This is also true for the husbands and the male partners in the family.

Since the woman is considerably dependent on the man, it depends primarily on the woman to keep her man to her throughout life by showing love towards their husband. The early women of the first generation of the homosapiens were far more dependend on male members of the group. Their survival depended on how much they could keep the male members in control by loving them and taking care of them. In otherwords the investigator believes that love as an emotion especially in the facial expression is more likely to be species - constant aspect of behaviour among the females than among the males. At the same time different cultural roles may have exaggerated or minimized the role of love as an emotion especially among their male species. Assuming the above arguement, this study is likely to show some differences, from what are expected according to Tomkin s theory.

The objectives of this study are therefore to examine Tomkins theory mentioned above by under taking a cultural investigation of the facial expressions of the five emotions e.g happiness, sadness, anger, fear and love by both male and female actors of different cultures as recognized by subjects of the Yoruba culture. The next chapter deals with the background literature of this study.

Chapter 2

2.1 BACKGROUND LITERATURE

Definition of Emotion

The word emotion is derived from latin roots meaning "to move out". This conveys the idea of an outward expression of something inside, which is one aspect of emotion. "To move out" also implies a second aspect of emotion - its motivational quality. Emotion supplies the motive power for a great deal of our behaviour. In addition, however, emotion is an experience; it is something we feel. It is a physiological state that can be observed with the appropriate recording equipment. We usually cannot rely on a general dictionary for the definition of technical psychological terms, but these aspects of emotion have been nicely summarized in the third edition of Webster's unabridged dictionary. Here emotion is defined as "a physiological departure from homeostasis that is subjectively experienced in strong feeling (as of love, hate, desire, or fear) and manifests itself in neuromuscular, respiratory, cardiovascular, hormonal, and other bodily changes preparatory to overt acts which may or may not be performed".

(From Webster's third New International Dictionary, copyright 1961 by G. & C. Merriam Company, publishers of the Merriam - Webster Dictionaries.) Drewer (1952) describes "emotion" as a complex state of the organic involving widespread bodily changes. Mentally, this is accompanied by strong feelings and impulses to behave in particular ways. This include bodily state and behaviour.

Emotion is a feeling; it is a bodily state involving various physical structures, it is gross or fine-grained behaviour and it occurs in particular situation. When we use the term we mean any or all of the possibilities each of which may show a wide range of variation.

One of the difficulties with any attempt to describe emotions is that emotions are thereby taken out of the immediate context in which they occur. Emotions occur as essential and inseparable aspects of all experiences. It is not the feeling of fear in general that we should seek to describe but a particular experience of fear as if occurs in a specific situation - what the individual perceives, feels, and thinks about. In just this way, by describing emotions in recognizable, "real-life" contexts, writers have most effectively contributed.

Emotion can also be described as a stirred-up state of the organism, reflected variously in emotional experience (the feeling of emotion), in emotional behaviour and in certain patterns of physiological change, such as love, fear, anger, or grief. According to psychologists an emotion is aroused when a man or animal views something as either bad or good. When a person feels like running away from something he thinks will hurt him, we call this emotion fear. If the person wants to remove the danger by attacking it, we call the emotion anger. The emotions of joy and love are aroused when we think something can help us. An emotion does not have to be aroused by something in the outside world. It can be created by a person's thought.

Everyone has emotions. Many psychologists believe that infants are born without emotions. They believe children learn emotions. They believe children learn emotions just as they learn to read and write. A growing child not only learns his emotions but learns how to act in certain situations because of emotion.

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2.2 Expression and perception of Emotion

Emotions are so vital a part of our lives that we cannot even witness emotion in another without being somewhat affected.

When we perceive emotional responses in others, we respond in appropriate ways, perhaps with an emotional expression of our own. For example, if I receive a telegram from home that I should come home, granny is dead. I would respond with sadness or cry depending upon how close I was to her before her death.

Morgan, et al (1979) postulated in their book "Introduction to Psychology" that we perceive emotion in others from many sources and identified the voice as one of the channels of emotional expression. For example laughter denotes happiness, joy, excitement, sobs, sorrow and laughter, enjoyment. A tremor or break in the voice may mean great sorrow. If something harmful is actually present, which is accompanied a loud, highpitched, sharp voice and obstructing us, we have the urge to turn against it, we feel anger. Our natural way of thinking about these standard emotions is that the mental perception of some fact excites the mental affection called the emotion. What is said and the way and manner it is said are important in the perception of emotion. We also perceive a great deal about emotion from facial expression. A person experiencing an emotion nearly always expresses it in some way in his overt behaviour. Facial expression of emotion is a reliable indicator of a person's emotion. To a lesser extent, the average person also interprets

is expected to be expressed on a person's face. To a lesser extent, the average person also expects hand and body movement and gestures to express and signify the emotion but he pays more attention to the face. Quite a bit of work has been done on facial expression in emotion while hand and body gestures have been relatively neglected. Psychologists have studied the problem of whether or not there are typical facial expressions for each emotion. It is likely that most studies are likely to conclude that there may be definitely cultural differences in the expression of emotion. However, as in everything else that is human, we find that both heredity and environment must be considered in emotional expressions. In other words, emotional behaviour is a result of both maturation and learning. The older literature on the recognition of emotional expression has concentrated on the recognition of photographs of posed facial expression (Peletzky, 1914, Langfeld, 1918; Sherman, 1927); the conclusion, that emotion cannot be reliably recognized, can be attacked on the ground both that static poses do not reflect the dynamic character of emotion, and that the emotions portrayed depend on the (unknown) talent for mimicry possessed by the person

who posed for the photographs. Recently, there has been renewed interest in this problem and its experimental investigation (Schlosberg, 1941, 1952, 1954) found that three dimensionals of facial emotional expression can be perceived with reasonable accuracy. These are pleasantness-unpleasantness, attention-rejection, and sleep-tension. The first dimension as the name implies, in the degree to which a facial expression represents feelings of pleasantness or unpleasantness. On the second dimension, attention-rejection, attention is characterized by wide-open eyes and often by flared nostrils, and an open mouth, as if to bring the sense organ to bear on the subject. In rejection, the eyes, lips and nostrils are shut, ^{striving} to keep out stimulation.

The third dimension, sleep-tension, refers to the level of tenseness or excitement portrayed. At one extreme is the relaxation of sleep; at the other is the expression of extreme emotional arousal. Later studies revealed that certain primary emotions were evolutionary in nature.

In order to study patterns of facial expression, psychologists have presented pictures of faces expressing various spontaneously aroused emotions and have asked people to judge what emotions were expressed.

In this kind of experiment, where the judges see only the face, agreement is far from perfect. There is usually rather good agreement upon whether the emotion is pleasant or unpleasant; but it is much difficult to agree upon whether the emotion is sorrow, fear, anger, distress or the like. The same result obtains, in general, for posed expressions. When professional actors portray certain emotions and judges rate them on facial expression alone, agreement about the kind of emotion portrayed is not very good.

2.3 THEORIES OF EMOTION

The psychology of emotion is difficult enough for the researcher and theorist, this has resulted in many theories of emotion. They stem from various fundamental assumptions, they stress different problems and they can be distinguished both in the degree of their formality, and the degree to which they are anchored to empirical fact. The stage of contemporary psychological thought (Howard Leventhal 1979) is occupied by four basic approaches to emotion. These approaches are as follows, viz.

1. attitude or expressive motor theory, which is basically Darwinian.
2. body (or automatic) reaction theory which is basically Jamesian.
3. Central neutral theory, which is in the tradition of Walter Cannon.
4. Cognition-arousal theory which is currently the centre stage because of the provocative work of Stanley Schacter and his student.

Attitude or Expressive Motor Theory

Attitude or expressive motor theories form the centre of traditional views of emotion and this group of theories is exceptionally varied. (Howard Leventhal 1979) the assumptions common to this class is as follows, viz.

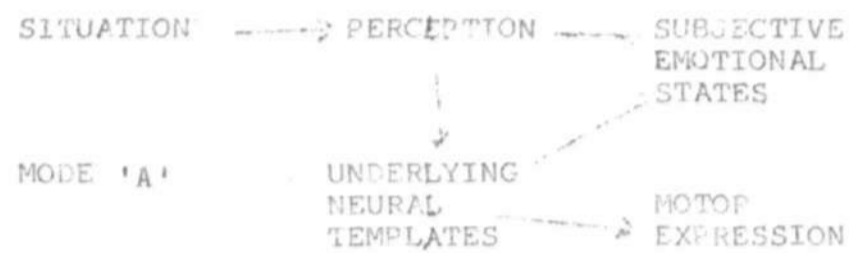
1. A stimulus setting is perceived and produces activity in a neural structure which is specific to a particular emotion the connection between stimulation and particular neural structures may be innate, conditioned or learned.

2. Activity in the underlying centre gives the feelings and also gives rise to expressive motor behaviour (postural or facial changes).

3. The pattern of expressive motor behaviour including postural and facial motor alterations, is specific for each of the emotional states. Emotional patterns other than the startle pattern differ from one person to another and from one culture to another. It should be clear then that each individual develops somewhat unique ways of expressing emotion.

4. There is some kind of feedback, connection between expressive action and subjective feelings. Although the precise nature of the connection is open to speculation, many theorists of this persuasion argue for a peripheral feedback mechanism with the pattern of facial muscle contractions resulting in specific subjective emotional states.

An attempt to illustrate attitude or expressive motor theory, Howard Leventhal postulated a schematic diagram which follows below to show Darwinian or attitude model of Emotion.



THE DARWINIAN OR ATTITUDE MODEL EMOTION
(HOWARD LEVENTHAL 1979)

Expressive motor theories tend to take emotion for granted, i.e. the experience and expression are seen to be manifestations of an innate mechanism as illustrated in the above diagram. Given this perspective, psychological research has had two goals:

1. to describe the pattern of motor change accompanying particular feelings (and eliciting situations) and
2. to determine the adaptive value of behaviour and speculate about the species history that led to its development.

Body (Automatic) Reactive Theory.

As a result of James researches, psychology to-day differs from psychology of fifty years ago in a manner so fundamental as to justify the comparison with biology before and after Darwin which tended to take emotion for granted. The famous psychologist James (1950) reversed this and argued that situations produce autonomic, expressive postural and adaptive behaviour which is the source of emotional experience (MODEL B below). He recognized that emotional experience is added to experience by some response of the organism, the emotional component of experience was not inherent in the perception of the object, as objects could be experienced with or without emotion at different point in time. In a fear situation, according to James, we first perceive the situation. Second, we react - our hearts pound and we find ourselves running away. Third, and last, we know

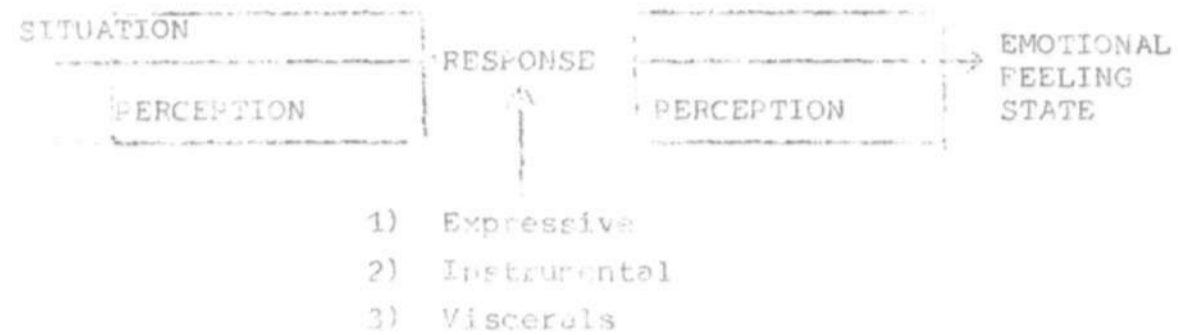
that we are afraid and feel afraid. Thus, the knowing and feeling come after and result from the action of the heart and other bodily changes and after the external behaviour such as running away.

James believed that the nervous system consisted of sensory, association and motor areas and lack any special areas for creating feeling qualities (James 1890/1950). This belief along with the introspective experience also convinced him that feedback from motor reaction was the critical factor in adding feeling to experience. James settled on visceral reaction as the source of feedback, we felt they provided the specific qualities of different emotions e.g feeling of fear, shame, guilt etc and the sense of uncontrollability which we attribute to feeling states. It has been argued that the bodily changes which occur in states of emotion form the most important source of our affective consciousness. On the once celebrated theory of James and Lange, emotion is no more than perception of these various somatic manifestations. The trend of the evidence is not favourable to this view. The main objections to the James-lange theory are as follows:-

- (a) There is no constant pattern of internal or external expression correlated with the different emotional states. In consequence, it would be impossible to distinguish anger from fear were those experiences dependent only on awareness of bodily changes.
- (b) In certain cases of neurological disease, the patient displays an abnormal tendency to laugh or cry, although these reactions are entirely out of keeping with his prevailing psychic state;
- (c) Injection of adrenalin, which gives rise to bodily changes typical of emotional stress, does not provoke emotional states. The theory has also been challenged on introspective grounds. At the same time no one will deny that visceral sensations contribute a distinctive nuance to mental life and endow our experiences of emotion with a peculiar urgency. Emotion is beyond reasonable doubt a primary state of consciousness depending, in some way not yet understood, upon the cerebral mechanisms concerned with the general regulation of somatic and vegetative activities.

The James-Lange view is especially important because of the emphasis it places upon the bodily changes that occur in emotion.

MODEL 3

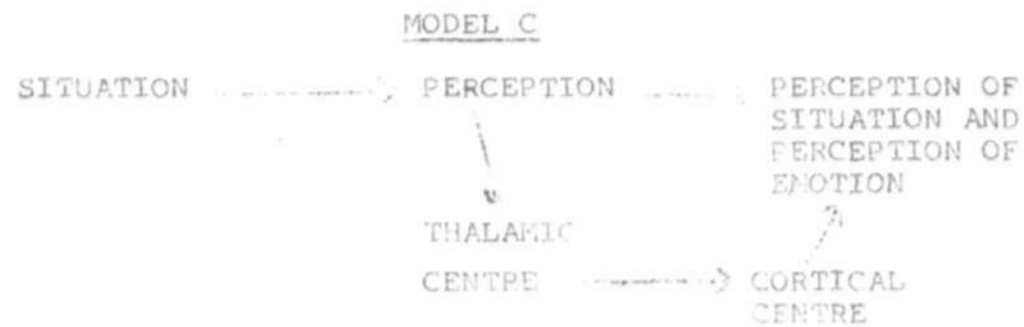


JAMES MODEL OF EMOTIONS WITH KEY QUESTION REGARDING THE ELICITATION OF BODY REACTION (HOWARD LEVENTHAL, 1979).

Several theories of emotion have been proposed in an attempt to related bodily changes in emotion to emotional feelings. Among these are: the James-Lange theory, which stresses the causative role of the perception of bodily changes in the production of emotional feelings.

Central Neural Theory

Cannon (1927, 1931) strongly objected to the Jamesian position; and postulated that subjective feelings were generated by interaction between the thalamic and the cortex as illustrated in model C below



THE CENTRAL NEURAL MODEL OF EMOTION
early version as expressed by Cannon.

The Cannon emergency theory, which states that both the emotional feelings and bodily changes are simultaneously triggered by an emotion-producing situation, but that the bodily changes do not cause the emotional experience; and the cognitive theory, which states that emotional feelings are produced by interpretation and labeling of the stirred-up bodily state.

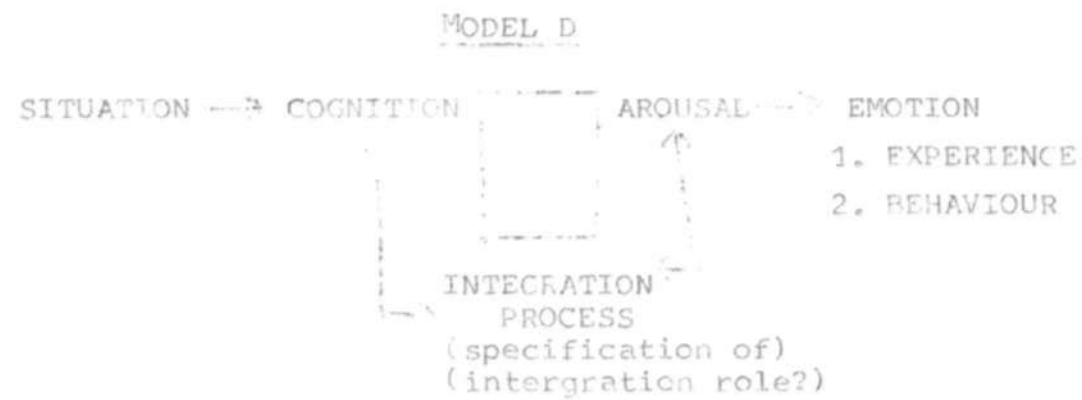
Physiologists have discovered that the part of the brain called hypothalamus is the control center for the complex neural activity in emotion. It has been suggested by some (mainly Cannon) that the best theory to describe what happens in emotion is a central or hypothalamic theory. It is central in the sense that the central nervous system is in control of the emotion.

According to this view, the emotional sequence is as follows. First, the organism perceives a situation to be a fearsome one. Second, the hypothalamus takes over, and at one and the same time impulses go out from this central portion of the brain both to the upper parts of the brain and to the various other parts of the body. Thus we have the knowing and feeling of fear at the same time that we have the bodily changes and the action of running away. The central theory states that both conscious awareness and bodily changes occur together as soon as the hypothalamus takes over.

The main contribution of the central theory is the fact that a control center for emotion is located in the hypothalamus of the brain.

Cognition-Arousal Theory

Cognition-arousal theory has some affinities with the James-Lange theory, states that the emotion which we feel is an interpretation of the stirred-up bodily states (Schachter and Singer, 1962). It was Schachter's inventive handling of the model (Schachter 1964) which made explicit its assumptions, viz:



These assumptions make explicit a variety of issues many of which were simply alluded to by other theories.

The basic idea is that the bodily state of emotional, and that even when there are physiological differences, they can not be sensed. This means that the state of bodily arousal is ambiguous and any number of emotional feelings might be felt from very similar body states.

However we interpret and label-or have cognition about - the physiological state, and we experience the emotion which seems appropriate to the situation in which we find ourselves. The sequence of events in the production of emotional feeling, according to this theory, is perception of emotion-producing situation, a stirred-up bodily state which is ambiguous, and interpretation and labeling of the bodily state so that it fits the perceived situation.

An example will make this theory of emotional feeling a little clearer. Imagine a man walking alone down a dark alley, a figure with a gun suddenly appears. The perception-cognition "figure-with-a-gun" in some fashion initiates a state of physiological arousal; this state of arousal is interpreted in terms of knowledge about dark alleys and guns and the state of arousal is labelled "Fear". Similarly a student who unexpectedly learns that he has made Phi Beta kappa may experience a state of arousal which he will label "joy" (schalchter and singer, 1967, page 380).

This theory, provides a way of accounting for the many emotional moods which may accompany very similar physiological states.

2.4 THE YORUBA CULTURE

The Yoruba people number many million and are to be found not only in their homeland of Western Nigeria but throughout West Africa and as far a field as Brazil and Cuba, where their culture still exerts a strong influence. This culture has produced some of the world's masterpieces in sculpture, notably the bronzes and terra cottas of Ife, and has also strongly influenced the art of Benin. The Yoruba have a fairly uniform culture-taking this term to embrace language, dress, marriage customs, myths and political structure indicate two very different ways of looking at a society.

Yoruba culture is remarkably uniform for a people so numerous and inhabiting such a vast area. Differences in dialect were, in the past pronounced though a standard form of Yoruba is now coming to be accepted; the internal differences of dialect are now considerably less than the differences between the Yoruba language and that of neighbouring Benin, Nupe and Fon. The Yoruba-speaking peoples, like any other group of people are mobile, constantly spreading outwards from, or moving into a particular core area,

so that the boundary is always changing.

The Yoruba society, for example this concept of a whole way of life can cover New Yam Festival, Ogun (god of iron) day hill worship, homage to Obas, Egungun (masquerading) festival aso ebi (uniform dresses for relatives, associates or age-groups), outdoor dances and so on. All the above named festival are moment of happiness for every body and this can be observed from their faces. It is accompanied with eating, dancing and meriment.

Yorubà is a dialect cluster of the kwa language of West Africa and forms a single unit within these languages. These dialects are said to be not altogether mutually intelligible, though borderline peoples tend to pick up and speak the dialects of the main tribes on either side of them. Written Yoruba is based mainly on the Oyo dialect, but forms taken from Lagosian, Egbe and Ijebu speech are quite commonly introduced.

Main cultural features in the Yoruba land include birth, circumcision, marriage, divorce, burial etc.

All these different cultural features are accompanied with their emotions and some facial expressions are prominent.

For a first marriage the parents of the boy send the first instalment of the marriage payment to mark the formal betrothal. The boy makes periodic gifts of yams and maize to the girl's father and helps him with manual work. The final marriage payment is made, and the date of marriage is arranged, the carrying of the bride to her husband's house being known as igbeyawo. She is accompanied by her age mates and two wives of her extended family, who remains with her until the wedding night. She is lifted on the shoulder of a former bride of her extended family and carried into her husband's compound.

One can recognise the facial expression of happiness on her face and on the faces of all those who accompanied her with dancing and merriment characterising the occasion.

Boys are usually circumcised within the first year after birth. Some Yoruba, however, do not circumcise until twenty years of age but things are not the same any longer, boys are circumcised as soon as they are about three weeks old. Mothers, are normally panicky and one can read the expression of fear from their faces.

The arrival of a new baby is a joyous and happy moment for the parents of the child. The faces of the parents are full of smile and happiness. The child is named from 3 - 9 days after birth; on the 9th day for a boy, the 7th day for a girl. As many names are given to the child by the close relatives of the parent.

Divorce, in the sense of obtaining a legal decree of annulment of marriage, appears to be unknown in native Yoruba law, though there is a form of socially recognised divorce outside the court. A husband can put his wife away either temporarily or permanently, without her consent, in kind of situation the wife is sad and this emotion of sadness can be recognised from her face. But a wife, according to ward, cannot properly leave her husband without his consent, although in practise she often does.

In case where the wife runs away with another man, the husband sue the man through the courts -- for the recovery of the marriage payment, including compensation for manual work and minor gifts. In this case, the husband is sad and full of anger, for the behaviour of his wife and this can occasionally be recognised facially.

In case of burial which is a loss to the family, if the dead is an elderly person, then it is a joyous occasion and there is ceremonial feasts but if the dead is a young person, a child or husband then it is a moment of mourn and grieve for the family, people crying, the emotion of sadness would be boldly written on the faces of those concerned. Thus the Yoruba culture can be seen as having cultural experiences of happiness, sadness, anger, fear or love, as the case may be and therefore Tomkins theory of emotion and their universality concept is a good thing of investigation.

2.5 Recognition and Imitation of Facial Expressions in Yoruba culture.

Much effort has been directed towards an understanding emotional expression has been devoted to the issue of universality (Ekman 1971, 1973, 1977, Izard 1971, 1980). According to Ekman's theory (1977), the relationship between an emotion and movement of particular facial musculature (the "facial effect programme") is universal. Ekman also gives a great weight to the role of cultural factors in modifying facial expression.

different facial expressions expected of them, preferred or allowed in which circumstances and in how to perform accordingly. Research evidence suggests that adults in all societies voluntarily produce a variety of facial expressions, little is available concerning the presence of this ability in very young children and its developmental aspects. (Oster and Ekman 1978: 242 - 243).

From a study specifically designed to compare the voluntary production of facial expressions with the ability to discriminate them, Odom and Lemond (1972) it was found that discrimination accuracy increased with age to a greater extent than did production accuracy which also increased with age. From Hamilton (1973) developmental study of preschoolers second to the fifth grade, he found improvement with age in the recognition of facial expressions, and, to a lesser degree, in the voluntary production of facial expressions.

Initiation may be one means by which the development of voluntary control of facial expressions is facilitated (Tomkins 1962) while the work of Eisenberg et al (1973) has shown that mid-water focus of facial expressions are produced by the child and for that the work of

2.6 About This Study

This study aims to examine (a) if there are universal facial expressions in the five emotions of sadness, anger, fear, happiness and love among the Yoruba culture. From the previous chapter it is concluding that there is such a thing as "universality" in the facial expressions of emotions, though some studies have failed to confirm the theory of Tomkins. There are many who believe that our non-verbal behaviour, such as facial expressions are learned during the process of socialization. At the same time, it can be further argued that most of the emotions excluding the very basic and formative ones e.g sadness and happiness, evolved much later in the evolution of mankind.

This study aims to examine if Tomkin's theory is valid for all the emotions to be interpreted in this study.

The next chapter deals with the aims and hypothesis of this study.

AIMS AND HYPOTHESES

From the previous chapters, Emotion the aims of the study are stated as follows, viz:

- (a) to examine if there is an underlying universality in the facial expressions of both males and females of different cultures in respect of the emotions of SADNESS, ANGER, FEAR, HAPPINESS, AND LOVE and
- (b) to assess a theory after examining the result of this study on the possible differences in the facial emotional expressions of anger, fear, and love which may have evolved much later in the history of the evolution of the homosapiens.

From the above aims the following null hypotheses are stated, viz:

Hypothesis (H0) - There is no difference among Yoruba cultures in recognizing the facial emotional expressions of SADNESS, ANGER, HAPPINESS, FEAR, and love of both males and females of different cultures.

Chapter 4

Research Methodology1. THE SAMPLE

The sample of the study was collected from the adult population of Yoruba group, both men and women. To represent the respondent's adult population was chosen because it was assumed that adulthood would exhibit maturity of understanding of the different emotional expression of the faces of people. Beyond this solitary assumption about the adult respondent there was no other assumption in the field and hence conclusion could be drawn accordingly.

The adult sample finally consisted of fifty (50) male and fifty (50) female adult of the Yoruba group. They were collected at random one after the other and were made to respond to the questions of the research detailed here under. The question were about the photographs of the faces of subject and they were randomly arranged in a simple large sheet of paper, one after the other photograph.

The chosen subjects were given the following instructions: I am going to show you some facial photographs of actors and actresses. They are all film actors and actresses. In each photograph they have posed for either happiness, sadness, anger, fear or love. Please take care and identify these photographs one by one. The sample class consisted of fifty (50) male Yoruba adults and fifty (50) female Yoruba adults. Where it was needed, the questions were interpreted and explained to the Yoruba respondents before responses were recorded from them.

11. THE EMOTIONS AND FACIAL EXPRESSIONS

The four areas of photographs included the Western films, Indian films, Chinese films, local Nigerian shows. Efforts were made to collect the facial photographs of the film actors and actresses of these four different areas from different film magazines available locally. Apart from the photograph of the Chinese male actor depicting happiness (photograph No.11) and the Nigerian actors and actresses all photographs were so obtained. For the Chinese male photograph depicting happiness, approaches were made to a Chinese scholar to help the researcher with a photo of happiness, by posing for it, which he did.

And as for the Nigerian actors and actresses, one Nigerian male actor and another Nigerian female actress eventually conceeded to the researcher's request, to pose for the different emotions to be photographed.

In this way the bunch of 40 photographs, 20 male and 20 females were obtained. The researcher then obtained a random design of presentation of this photograph to the respondent and the list of random presentation of this photograph is shown in Appendix 1 of this desertation.

This was so done to prevent the effects of cue taking place in the respondents. The photographs are shown in Appendix 11 of this desertation.

111. METHOD OF PROCEDURE

Under the procedure the respondents were asked to familiarise the situation in which the task was for them to identify the photographs as one of sadness, happiness, anger, fear or love as the case may be, irrespective of the actors or actresses of the area. Each respondent was asked to identify the photograph by the number alone as to which particular photograph belong to the emotions of happiness, sadness, anger, fear and love, the photograph was represented and their responses were recorded in Appendix 111 of this dissertation without any assistance of

held of any nature coming from the investigator. The data matrix of this research from the responses of the respondents as being recorded and reproduced in Appendix IV to this dissertation. Each correct response was given a score of one and mistakes were ignored.

The next chapter deals with the data analysis and results of the dissertation.

Chapter 5

DATA ANALYSIS AND RESULTS

The collected DATA matrix was subjected to computer analysis. The method of analysis determined by the investigator had to be a parametric test of significance difference of the means of the responses of the female photograph from that of the corresponding male. If emotion was universal then it would have been inferred that the photographs responses would not be significantly different from each other and would be similar so to say. The significant results of t-test analysis are reproduced in the following table.

Table - 5.1
T-test results: Emotion of "Love"

EMOTION	No OF CASES	MEAN	S.D	(Difference)		t Value	DegrF.	2-Tail PROB
				MEAN	S.Devia			
LOVE	100	1.4800	1.123	.9500	1.250	7.60	98	.0001
LOVEF		2.4300	.891					

Table - 5.2

T-test results: Emotion of "Fear"

EMOTION	No. OF CASES	MEAN	S.Devi	(Difference)		T-Value	Decr F	2-Tail PROB
				MEAN	S.D			
FEAR	100	1.9200	1.026					
FEARF		2.5700	.923	.5500	1.393	4.73	98	.0001

Table - 5.3

T-test results: Emotion of "Happiness"

EMOTION	No. OF CASES	MEAN	S.Devi	(Difference)		T-Value	Decr F	2-Tail PROB
				MEAN	S.D			
HAP	100	2.5200	.772					
HAPF		3.0100	1.068	.5100	1.073	4.73	98	.0001

In the above tables degree of freedom has been calculated at 98 as it would have been for two-tailed test of probability. And from this two-tailed test of probability and the significant result it can now be predicted that for emotions like happiness, fear and love subjects do feel significantly different, this would mean that the respondents as a group did not recognise the same emotions as the response for the male or female photographs for the emotions deployed.

The significant result thus go a long way to predict the lack of universality of emotions among people and comments are made in this following chapter.

CHAPTER 6: CRITIQUE, CONCLUSION & DISCUSSION6.1 Critique

In this present study which examines Tomkins (1962, 1963) theory of emotion where it has been suggested that the facial expression of emotions are determined by biological rather than by social learning. The Yoruba subjects were asked to identify from photograph of male and female of each of the four different film actors and actresses corresponding emotion of the five emotions studied. From the previous chapters, it has been noted that Tomkins theory was valid for the two primary emotion of sadness and happiness and also true for emotion of love only in respect of the facial expressions of the female actresses. The results is therefore a confirmation of the investigator's expectation. The number of subjects of fifty male and fifty female Yoruba group were however not small. The data could not justify a normal distribution for each which is an assumption underlying the parametric statistical test such as "t-test". This parametric test calls for normality of the data and normal distribution, both being satisfied here.

The subjects whose photographs were used were professional actors except for photograph number 11 who is a Chinese student, who posed for the photographs. It need to be mentioned that subjects who were examining these photographs in recognition task never made any complaints about the quality of these photographs which is reproduced here for the sake of reference. One can see, therefore that this study is methodologically sound and valid.

6.2 Conclusion

1. The facial expressions of the primary emotions of sadness and anger are recognized by all people of both sexes of the Yoruba culture.
2. The facial expressions of the emotion of Love, fear and happiness are not recognized by people of both sexes of Yoruba culture.

6.3 Discussion

It was commended by an eminent psychologist, Professor Donald O'Hebb (1970) in the documentary film "The mind of man", that emotional people are more intelligent than less emotional ones.

The chosen subjects were given the following instructions: I am going to show you some facial photographs of actors and actresses. They are all film actors and actresses. In each photograph they have posed for either happiness, sadness, anger, fear or love. Please take care and identify these photographs one by one. The sample photos consisted of fifty (50) male Yoruba adults and fifty (50) female Yoruba adults. Where it was needed, the questions were interpreted and explained to the Yoruba respondents before responses were recorded from them.

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Both of the names coming from the investigator. The data matrix of this research from the responses of the respondents as being recorded and reproduced in Appendix 1y to this dissertation. Each correct response was given a score of one and mistakes were ignored.

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Chapter 5

DATA ANALYSIS AND RESULTS

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				MEAN	S.Devia			
LOVE	100	1.4800	1.123	.9500	1.250	7.60	98	.0001
LOVEF		2.4300	.891					

By implication the above statement seems to indicate that to experience the different emotions one needs to understand the subtle difference of different types of experiences. For example anger is different from hostility, love is different from sex and anger is different from anxiety or fear, or apprehension. These differences in the types of experiences are easily available to a more intelligent person since an experience is first and foremost a particular type of cognition which after decoding at the cortex generates a particular motor meaning of behaviour which through feedback is associated with its antecedent emotion. If a particular type of experience is not available in a society or culture, then its corresponding antecedent emotion will also remain unknown to them forever.

If the facial expressions of the five emotions studied is determined by the biological factors controlled by the facial muscles, then there would be no differences in the recognition task by the subjects of the four different actors and actresses studied. But the results indicated to the contrary.

The acts of bravery of these people are documented in the history of the First World War and also in the recent fighting of Falkland Island (1982).

This study has shown by its findings that Tomkins's (1962, 1963) theory of emotions, suggesting that emotions are determined by biological means in the control of the facial muscles & the facial expressions of the emotions is not valid except for the emotions of sadness and happiness and also for love only when love is expressed by the female species. As far as these finite emotions are concerned, the specific constant theory of Tomkins does not hold good, and these are some of the issues which have been highlighted in the study.

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APPENDIX I LIST OF RACE ON EMERGENCY

Serial numbers	Explanatory Codes
1. Anger	Chinese male
2. Sadness	African male
3. Fear	Western male
4. Love	Indian male
5. Fear	Indian male
6. Love	Chinese female
7. Happiness	Indian female
8. Sadness	Western female
9. Happiness	Indian male
10. Love	Western male
11. Happiness	Chinese male
12. Fear	Indian male
13. Love	Western female
14. Sadness	Indian male
15. Anger	African female
16. Anger	Chinese female
17. Anger	Indian male
18. Anger	Western male
19. Fear	Chinese male
20. Love	African female
21. Happiness	Western Male
22. Sadness	Chinese female
23. Sadness	Western male

24.	Happiness	African male
25.	Love	Chinese male
26.	Love	African male
27.	Anger	Indian female
28.	Happiness	African female
29.	Fear	Chinese female
30.	Fear	Western female
31.	Sadness	Chinese male
32.	Happiness	Western female
33.	Love	Indian female
	Serial numbers	Explanatory Codes,
34.	Anger	Western female
35.	Anger	African male
36.	Sadness	African female
37.	Happiness	Chinese female
38.	Fear	African male
39.	Sadness	Indian female
40.	Fear	African female

FACIAL EXPRESSIONS OF EMOTIONS TEST
INSTRUCTIONS TO THE RESPONDENTS

1. AGE: -----
2. SEX: -----
3. TRIBE: -----
4. Do you travel abroad? -----
5. Do you watch Cinema? -----

In front of you there are 40 pictures of men and women of different nationalities. Each of these picture is displaying a facial expression of one of the following five emotions. Namely Happiness, Sadness, Anger, Fear and Love. Look at each picture carefully and tell me what particular emotion it is displaying.

Remember this is not a test of intelligence, or of any special ability of yours. Also remember that the first answer that crosses your mind is perhaps the best answer. Do you understand? Now examine the pictures serially as they are numbered and tell me their corresponding emotions. I will record your answers.

- | | | | |
|-----------|-----------|-----------|-----------|
| 1. ----- | 11. ----- | 21. ----- | 31. ----- |
| 2. ----- | 12. ----- | 22. ----- | 32. ----- |
| 3. ----- | 13. ----- | 23. ----- | 33. ----- |
| 4. ----- | 14. ----- | 24. ----- | 34. ----- |
| 5. ----- | 15. ----- | 25. ----- | 35. ----- |
| 6. ----- | 16. ----- | 26. ----- | 36. ----- |
| 7. ----- | 17. ----- | 27. ----- | 37. ----- |
| 8. ----- | 18. ----- | 28. ----- | 38. ----- |
| 9. ----- | 19. ----- | 29. ----- | 39. ----- |
| 10. ----- | 20. ----- | 30. ----- | 40. ----- |



TABLE

EMOTION: FACIAL EXPRESSIONS OF RECOGNITION
 RESPONSES LN = 100: n(MALE) = 50; n(FEMALE) = 50

Serial No.	Sex	Age	Travel Abroad	Watch Film	MALE PHOTOGRAPH					FEMALE PHOTOGRAPH					TOTAL				
					Happiness	Sadness	Love	Anger	Fear	Happiness	Sadness	Love	Anger	Fear	Happiness	Sadness	Love	Anger	Fear
1	M	30	Yes	Yes	3	2	1	2	1	1	-	2	1	3	4	2	2	3	4
2	"	"	No	Yes	4	4	-	2	1	3	2	3	2	1	7	6	3	4	2
3	"	"	No	Yes	4	2	1	2	1	3	1	2	1	4	7	3	3	3	5
4	"	"	Yes	Yes	4	4	1	1	2	4	1	3	1	2	8	5	4	2	4
5	"	"	Yes	Yes	4	1	2	2	2	3	-	4	2	3	7	1	6	4	5
6	"	"	"	"	4	3	-	1	2	3	2	2	1	3	7	5	2	2	5
7	"	"	"	"	2	3	2	1	2	4	3	3	1	2	6	6	5	2	4
8	"	"	No	Yes	3	3	1	3	3	3	2	1	1	-	6	5	2	4	6
9	"	"	Yes	Yes	3	2	-	-	4	4	4	2	3	2	7	6	2	3	6
10	"	"	"	"	4	3	3	1	1	2	1	4	3	2	6	4	7	4	3
11	"	"	"	"	4	3	-	1	4	4	3	2	1	2	8	6	2	2	6
12	"	"	No	"	2	2	3	2	2	4	1	3	1	2	7	5	5	3	4
13	"	"	No	"	3	2	3	2	3	4	-	2	2	3	7	2	5	4	6
14	"	"	Yes	"	3	3	2	-	4	4	3	2	1	4	7	6	3	4	4
15	"	"	No	"	3	2	2	1	2	3	4	2	1	3	6	6	4	2	5

MALE PHOTOGRAPH FEMALE PHOTOGRAPH TOTAL

Serial No.	Sex	Age	Travel Abroad		MALE PHOTOGRAPH				FEMALE PHOTOGRAPH				TOTAL						
			Travel Abroad	Watching	Happiness	Sadness	Love	Anger	Fear	Happiness	Sadness	Love	Anger	Fear	Happiness	Sadness	Love	Anger	Fear
16	"		No	Yes	4	3	3	1	2	4	1	4	1	1	8	4	7	2	4
17	"		Yes	"	3	3	2	2	2	3	3	1	1	4	6	6	3	2	6
18	"		"	"	4	4	3	2	2	3	3	3	2	2	6	7	5	4	4
19	"		"	"	4	3	3	3	1	3	3	1	2	7	3	6	4	3	
20	"		"	"	4	4	1	3	3	3	2	3	1	1	7	6	4	4	4
21	"		"	"	4	-	-	-	1	2	3	2	1	4	6	3	2	1	5
22	"		"	"	4	3	2	2	1	3	3	2	-	-	7	6	4	2	1
23	"		"	"	4	2	1	1	2	4	2	3	1	3	8	4	4	2	5
24	"		No	"	3	1	1	-	1	2	2	-	1	2	5	3	1	1	3
25	"		"	"	4	3	1	1	3	4	2	2	3	3	8	5	5	4	6
26	"		Yes	Yes	4	3	3	1	1	1	4	2	1	4	5	7	6	2	5
27	"	22	"	"	4	3	2	2	-	1	4	3	1	3	5	7	5	3	3
28	"	23	"	"	4	2	1	-	4	4	4	4	1	2	8	6	5	1	6
29	"		No	"	4	2	3	3	4	4	3	2	-	4	8	5	4	3	8
30	"	23	No	"	4	3	3	3	3	2	4	3	2	3	6	7	6	2	6
31	"		Yes	"	4	3	3	-	2	3	3	3	2	2	7	7	4	4	4
32	"	23	"	"	3	4	2	-	3	4	3	4	2	3	7	7	5	2	6
33	"	21	"	"	3	4	2	-	3	4	3	4	2	3	7	7	5	2	6
34	"	35	No	"	4	2	2	2	-	4	3	3	3	3	8	5	5	5	3

CABLE

EMOTIONS: FACIAL EXPRESSIONS OF RECOGNITION

RESPONSES LN = 100- n(MALE) = 50; n(FEMALE) = 50

MALE PHOTOGRAPH FEMALE PHOTOGRAPH TOTAL

Serial No.	Sex	Age	Travel Abroad	Watch Film	MALE PHOTOGRAPH					FEMALE PHOTOGRAPH					TOTAL				
					Happiness	Sadness	Love	Anger	Fear	Happiness	Sadness	Love	Anger	Fear	Happiness	Sadness	Love	Anger	Fear
1	M	21	NO	Yes	4	3	2	2	3	3	1	2	2	4	7	4	4	4	7
2	"	26	Yes	"	4	1	-	3	-	4	1	2	1	2	8	2	2	4	2
3	"	20	"	"	4	4	2	3	1	4	2	3	2	4	8	6	5	5	5
4	"	21	No	Yes	4	1	-	1	2	3	-	1	3	3	7	1	1	4	5
5	"	21	No	"	4	2	2	4	1	4	1	2	2	1	8	3	4	6	2
6	"	21	"	"	4	3	-	2	2	3	1	3	2	1	7	4	3	4	3
7	"	19	Yes	"	4	1	1	3	3	4	1	3	1	3	8	2	4	4	6
8	"	22	"	"	4	2	1	1	1	3	3	2	3	2	7	5	3	4	3
9	"	25	"	"	4	4	-	3	2	2	2	2	-	2	6	6	2	3	5
10	"	23	"	"	-	2	1	1	1	2	-	1	1	2	2	2	2	2	3
11	"	31	"	"	4	1	1	2	4	4	2	2	2	2	8q	3	3	4	6
12	"	24	"	"	3	2	1	2	2	2	2	2	1	3	5	4	3	3	5
13	"		"	"	4	3	-	2	-	4	-	2	2	3	8	3	2	4	3
14	"	26	No	Yes	4	3	3	1	4	3	3	3	1	1	7	6	6	2	5
15	"	23	"	"	4	1	2	2	2	-	1	1	2	1	4	2	3	4	3
16	"	22	"	"	4	1	1	2	2	2	2	1	2	2	6	3	3	3	4

MALE PHOTOGRAPH FEMALE PHOTOGRAPH TOTAL

Serial No.					MALE PHOTOGRAPH					FEMALE PHOTOGRAPH					TOTAL				
	Sex	Age	Travel Abroad Y	Watch Film	Happiness	Sadness	Love	Anger	Fear	Happiness	Sadness	Love	Anger	Fear	Happiness	Sadness	Love	Anger	Fear
17	M		No	Yes	2	3	3	2	1	2	2	2	2	3	4	5	4	4	
18	"	28	Yes	"	2	1	2	1	2	1	1	1	1	2	2	2	3	1	6
19	"	31	NO	"	4	3	1	1	1	3	-	1	1	2	7	3	2	2	5
20	"	25	"	"	3	1	3	-	1	4	1	3	1	2	7	2	6	1	3
21	"	42	"	"	4	2	1	1	1	3	1	2	-	7	3	3	1	1	
22	"		"	"	1	1	1	2	2	1	-	1	-	2	2	1	5	2	4
23	"	30	"	"	4	2	2	-	4	4	-	2	-	3	8	2	4	-	7
24	"	35	"	"	2	3	-	2	1	-	1	1	1	1	2	4	1	3	2
25	"	35	"	"	4	3	-	4	2	1	2	1	1	2	5	6	1	5	4
26	"	22	Yes	Yes	4	1	1	1	2	3	2	2	3	1	7	3	3	4	3
27	"	22	"	"	4	3	1	2	2	4	2	3	1	3	8	5	4	3	
28	"	20	"	"	4	-	1	3	2	3	-	3	2	4	7	-	4	5	6
29	"	25	"	No	2	3	-	-	1	2	2	2	-	1	4	5	2	-	2
30	"	20	No	Yes	4	2	2	1	2	4	3	3	1	3	8	5	5	2	5
31	"	21	Yes	"	4	3	-	2	1	3	3	3	1	3	7	6	3	3	4
32	"	20	"	"	4	3	-	3	2	4	2	3	2	3	8	5	3	5	5
33	"	21	"	"	3	-	2	3	2	2	3	2	1	1	5	3	4	4	3

Serial No.	Sex	Age	Travel Abroad	Watch Film	MALE PHOTOGRAPH					FEMALE PHOTOGRAPH					TOTAL				
					Happiness	Sadness	Love	Anger	Fear	Happiness	Sadness	Love	Anger	Fear	Happiness	Sadness	Love	Anger	
34	M	22	Yes	Yes	4	2	3	-	3	3	3	4	1	4	7	5	7	1	7
35	"	22	"	"	3	2	3	2	2	2	3	3	1	4	5	5	6	3	6
36	"	22	"	"	4	2	2	3	2	2	2	1	3	3	8	4	3	6	5
37	"	22	No	"	4	1	-	1	1	1	1	2	2	2	7	2	2	4	4
38	"	20	"	"	3	4	3	2	1	1	2	1	2	3	7	6	2	4	4
39	"	24	No	No	2	2	-	1	1	3	2	3	2	2	5	4	3	3	5
40	"	23	Yes	Yes	4	2	1	1	2	3	1	2	1	3	7	3	3	2	5
41	"	18	"	"	4	2	2	1	1	4	2	3	2	3	8	4	5	3	4
42	"	21	"	"	3	3	-	2	2	2	3	3	2	4	5	6	3	4	6
43	"	26	No	"	4	2	1	-	1	4	1	2	2	2	8	3	3	2	3
44	"	21	"	"	4	2	-	1	2	3	3	2	-	2	7	5	2	1	4
45	"	20	"	"	4	4	1	2	1	3	4	2	1	3	8	3	3	4	4
46	"	20	No	"	2	2	-	-	2	1	1	1	3	3	3	3	1	4	5
47	"	21	"	"	4	3	1	3	2	2	2	2	1	2	6	5	3	4	4
48	"	22	"	"	3	3	3	1	3	4	1	3	3	2	7	6	6	4	6
49	"	21	Yes	Yes	4	2	4	1	3	4	3	2	3	3	8	5	3	4	6
50	"	24	"	"	4	3	2	3	3	3	1	3	2	2	7	4	5	5	5