

SIGNAL DETECTION THEORY

It is a mathematical model for understanding how sounds or other stimuli are detected in the presence of background noise. It replaces Classical Threshold Theory in psychophysics and provides a method for separating a person's sensitivity and a stimulus from any bias or response criterion. A typical measurement procedure may involve detection of a sound in a quiet room. Invited into an acoustically insulated chamber, an individual puts on earphones and is told to pay attention to a small warning light that comes on periodically. The instructions are to report for each occurrence of warning light whether a sound is heard through the earphones at that time. The sounds coming through the earphone vary in intensity though not in frequency. They may initially be of very low amplitude or they may be readily audible. Indeed the warning light may come on with no sound at all and this is called as a catch trial. A catch trial is a situation designed to catch someone who simply pretends to hear the sounds every time the light comes on. No matter what the sound, the individual being tested must respond with either "yes I heard the sound" or "No I heard nothing".

When the sound is present and the response is yes it is called as a HIT because it is correct recognition of the stimulus. When no sound is presented and the individual says No it is called as "correct-rejection". Sometimes however response is yes when

sound is present. It is a false alarm and some-
times the individual says No when the sound is in fact
present, it is a MISS. Thus the experimenter collects
the data showing the number of Hits, False alarms,
Misses and Correct-rejections for each individual
participant. Both hits and false alarms vary depending
upon the number of catch trials. When there is lower
proportion of catch trials, individuals tend to respond
yes more than when the proportion is higher. Thus
they maximise hits and since there are few catch
trials (they cannot make many false alarms)

If there is high proportion of catch trials, individuals
tend to say 'no' more, thus making fewer false alarms
and also making fewer hits. When unsure as to the
presence of sound, people guess and the probability
of guessing 'yes' is given by the proportion of catch
trials. In other words one might guess more frequently
if told that there would be few rather than many
catch trials. The psychologists collecting this data
determines the number of hits and false alarms for
each individual and compares them with a guessing
line i.e. the percentage of hits and false alarms
for one who merely guesses. The degree of difference
between these two modes of response is a pure
measure of sensitivity. Since bias has been
eliminated with the guessing base line sensitivity
is high when the individual hears most of the sounds

presented and has to guess on few of them. It is low when many of the responses are the guesses.

The experimenter also determines each person's bias or decision criterion in responding. The decision criterion changes whenever the number of catch trials changes but may also be influenced by number of other factors. Essentially the selection of criterion is done on the basis of two factors:-

- 1) Expectation of signal.
- 2) Pay off.

When trials are frequent the observer will use low criterions, because most of the trials are expected to be signal producing trials. It will increase the hit rate. The observer will use strict criterion if the expectation of signal is low. This will decrease hit rate, as well as the probability of false alarm.

The pay off refers to the consequences of right or wrong response. If a hit brings large rewards for the observer he will select a very lenient criterion. He will report more signal responses in order to maximize the rewards for hits. On the other hand if the punishment of an incorrect response is big the observer will follow a very strict criterion. He won't report the detection ^{of the} signal unless he is quite sure.

Signal Detection Theory has been helpful in applied research in perceptual studies + in the studies of memory. It is applied in the situation when pure measure of sensitivity is unaffected by the changing criteria is desired. It may be

used when the target of interest is criterion or
itself eg. in the studies of personality factors
response decisions.

ABNORMAL PSYCHOLOGY

OBSESSIVE-COMPULSIVE DISORDER

Diagnostically obsessive-compulsive disorder (OCD) is defined by the occurrence of unwanted and intrusive obsessive thoughts or distressing images; these are usually accompanied by compulsive behaviors designed to neutralize the obsessive thoughts or images or to prevent some dreaded event or situation. More specifically according to DSM-IV obsessions involve "recurrent and persistent thoughts, impulses or images that are experienced at some time during the disturbance, as intrusive and inappropriate....

The person attempts to ignore or suppress such thoughts, impulses or images, or to neutralize them with some other thought or action". Compulsions involve "repetitive behaviors (e.g., hand washing or darning, checking) or mental acts (e.g., praying, counting, repeating words silently) that the person feels driven to perform in response to an obsession or according to rules that must be applied rigidly.... The behaviors or mental acts are aimed at preventing or reducing distress or preventing some dreaded event or situation; however, these behaviors either are not connected in a realistic way with what they are designed to neutralize or prevent or are clearly excessive (DSM-IV 1994). In addition the person must recognize that the obsession is the product of his own mind rather than being imposed from without (as might occur in schizophrenia). It is also now recognized that there is a continuum of "insight"

among obsessive-compulsives about exactly how senseless the excessive their obsessions and compulsions are (Riggs & Foa 1993). In most cases these people do have some recognition that their behavior is irrational, but they cannot seem to control it - in a minority of cases this insight is absent - for most of the time. Finally the DSM-IV diagnosis requires that this seemingly involuntary behavior cause a person marked distress, consume excessive time (over an hour a day) or interfere with occupational or social functioning.

Most people with obsessive-compulsive disorder experience both obsessions & compulsions. Although earlier estimates were that as many as 25 percent experienced pure obsessional disorder without any compulsive rituals (Rachman & Hodgson 1980), recent estimates from research conducted in the development of the DSM-IV are that over 90 percent experience both obsessions & compulsions.

Most of us have experienced minor obsessive thoughts, such as whether we remembered to lock the door or turn the stove off. In addition, most of us occasionally engage in repetitive or stereotyped behavior, such as checking the stove or the lock on the door, or stepping over cracks on a sidewalk. In the case of obsessive compulsive disorder, however the thoughts are much more persistent & distressing, they generally appear irrational to

to the individual, and along with the associated compulsive acts they interfere considerably with everyday behaviour. Nevertheless research indicates that normal and abnormal obsessions and compulsive behavior are on a continuum.

Obsessive thoughts may center on a variety of topics. In one study the most frequent themes of obsessions were contamination (55 percent), aggressive impulses (50 percent), the need for symmetry (37 percent), somatic concerns (35 percent) and sexual content (32 percent) (Jenike et al 1986) study of OCD conducted in India revealed a similar range of themes, although the proportions showing obsessions about aggression and sex were somewhat smaller (Ashtari et al 1957).

As is the case of with obsessive thoughts, many of us show some compulsive behavior, but without the degree of compulsiveness of people with OCD, who are compelled to perform repeatedly acts that seem pointless and absurd even to them & that they in some sense do not want to perform. What seems consistent across nearly all the different OCD is: (a) anxiety is the affective symptom (except with primary affective obsessional slowness); (b) nearly all people afflicted with OCD fear that something terrible will happen to themselves or others for which they will be responsible and (c) compulsions usually reduce the anxiety at

... in the short term. Further it has been
observed that most patients with obsessive compulsive
disorder are continually worried about the possibility
that some-thing terrible will happen.

CAUSES

Psychosocial Causal Factors:

According to Freud's psychoanalytic view, a person with OCD has been unable to cope with instinctual conflicts of the Oedipal stage or has regressed back to an earlier stage of psycho-sexual development. Specifically, such a person is thought to be fixated in the anal stage of development (about 2 years), when children are thought to derive psychosexual pleasure from defecation. This is also the time at which parents are often attempting to toilet train these children which involves learning to delay or control these urges. If parents are too harsh they may instill rage in the child as well as guilt & shame about these drives.

According to this theory, the intense conflict that may develop between impulses of the id & the ego leads to the development of defense that may ultimately produce obsessive compulsive symptoms.

The dominant behavioral view of obsessive-compulsive disorder derives from O.H. Mowrer's two process theory of avoidance learning (1947). According to this theory, neutral stimuli become associated with aversive stimuli through a process of classical conditioning and come to elicit anxiety. Eg., touching a doorknob or shaking hands might become associated with the "scary" idea of contamination. Once having made this association the person may discover that the anxiety produced by shaking hands or touching a doorknob may be reduced by activity like hand washing. By washing his or her hands extensively the anxiety would be reduced and the washing response would be reinforced, making it more likely to occur again in the future when anxiety about contamination was evoked in other situations. Once learned, such avoidance responses are extremely resistant to extinction.

Biological Causal Factors:-

In the past 15 years there has been an explosion in research investigating the possible biological factors for obsessive compulsive disorder. Some studies have sought to discover whether there is a genetic contribution to this disorder. Others have explored whether there are structural brain abnormalities associated with OCD and yet others whether

There are abnormalities in specific neurotransmitter systems associated with OCD. The accumulating evidence from all three kinds of studies is that biological causal factors are probably more clearly implicated in the causes of OCD than in any of the other anxiety disorders.

Genetic studies have indicated both twin studies and family studies. Evidence from twin studies reveals a moderately high concordance rate for monozygotic twins (about 65 percent averaged across the studies reviewed by Rasmussen & Tsuang 1986), but these results are somewhat difficult to interpret given the failure to include dizygotic twins (Pauls, Raymond, & Robertson 1991). One small study by Carey and Gottesman (1981) did include dizygotic twins and found that concordance rates were smaller, although not significantly so, perhaps because of the small sample sizes. Most family studies have also found substantially higher rates of OCD in first-degree relatives of OCD patients.

The search for structural abnormalities in the brains of OCD patients has also been intense in the past decade as major advances have been made in techniques used to study the functioning of brain structures in living patients. Findings from studies

using positron emission tomography (PET) scans have shown that patients with OCD have abnormally active metabolic levels in the orbital prefrontal cortex + caudate nucleus (Baxter, Schwartz + Gruze 1991). Other studies have shown some normalisation of least some of these abnormalities with successful treatment (Baxter et al 1992). Rapoport & Wise (1988) in their study found abnormalities in the functioning basal ganglia.

There is ^{also} evidence suggesting the role of biochemical abnormalities as causal factor in O.C.D. Most contemporary findings suggest that increased serotonin activity & increased sensitivity of some brain structures to serotonin may be involved in O.C.D symptoms.

Pharmacological studies of OCD also suggest that drugs that are effective ~~with~~ in treatment of O.C.D are those that effect neurotransmitter serotonin.

TREATMENT

OCD is one of the more difficult anxiety disorder to treat. To date only two approaches have shown consistent success as treatments of OCD - (1) Drug treatment that affects neurotransmitter

mitter Serotonin

(b) Psychological treatment - Cognitive Behavioural Therapy

Drug Therapy - Drugs like Prozac, Zoloft etc. that inhibit the reuptake of serotonin have yielded good results but they produce clear improvement in only 50-75% of OCD patients & symptoms return quickly after discontinuation of the drugs & notable side effects like nausea, fatigue, loss of sexual desire are produced.

Psychological Treatment :-

Behavioral treatments for OCD are only psychological treatments consistently shown to reduce OCD symptoms. These procedures are sometimes combined with drug treatments are based on the principle of extinction described for treating phobias. Two treatment components that are usually combined are -

- (1) Exposure to the stimulus that elicits obsessive ruminations and anxiety.
- (2) Response prevention in which the person is kept from performing an anxiety reducing ritual.

Exposure & response prevention can be effective treatments whether administered to individuals or groups and when direct exposure is not possible imagined exposure can be substituted.

ABNORMAL PSYCHOLOGY

PHOBIC DISORDER

A phobia is a persistent + disproportionate fear of some (specific) object or situation that poses little or no actual danger to the person. It is an irrational intense fear that causes intense emotional distress and interferes significantly with every day life. In the midst of phobic reaction, a person feels engulfed by terror that blots out almost all other experience. The fear usually grips an individual with a rush of physiological symptoms including trembling, choking, dizziness, sweating, increased heart beat etc. The person may freeze or may run from the frightening situation. Phobics go to a great lengths to avoid an encounter with their phobic stimulus.

In DSM-IV phobias are classified as specific phobias, social phobias, and agoraphobia without a history of panic disorder.

SPECIFIC PHOBIA:

According to DSM-IV specific phobia is diagnosed if a person shows "marked and persistent fear, that is excessive or unreasonable, cued by the presence or anticipation of a specific object or situation and when exposure to the phobic stimulus almost invariably provokes an immediate anxiety response". The avoidance of the feared situation or distress experienced in the feared

situation or distress experienced in the feared situation must also interfere significantly with normal functioning or produce marked distress. Some common specific phobias include, Animal phobias, such as fear of snakes spiders etc. Another common cluster of phobias involves fear of blood, injury + injections. These phobias usually develop in teens quite unlike Animal phobias that develop in early childhood.

Other categories include situational phobias, such as fear of elevations closed spaces etc + Natural phobias such fear of thunder, darkness etc.

SOCIAL PHOBIA:

Excessive fear of situations in which a person might be evaluated + possibly embarrassed marks social phobia. DSM IV mention its two sub types -

(1) specific (2) generalised.

People with specific social phobia have disabling fear of one or more discrete social situations in which they fear, they may be exposed to the scrutiny, others or may act in an embarrassing or humiliating manner eg. public speaking.

Individuals with generalised social phobia have significant fears of most social situations (including both public performance situation + situations requiring social interactions) and often also share a diagnosis

of avoidant personality disorder.

(3) Agoraphobia -

Historically agoraphobia was thought to involve fear of the agora i.e. the public places of assembly. Agoraphobics most commonly fear + avoid crowded places such as shopping, malls, movie theatres etc. Today it is thought that agoraphobia involves fear being in places or situations from which escape would be physically difficult or psychologically embarrassing or in which immediate help would be unavailable in the event that something bad happens (DSM IV 1994) Agoraphobia can be terribly disabling as such people may feel uncomfortable venturing outside their homes.

CAUSES:

Psychosocial Causal Factors: According to the psychoanalytic view of the origins of phobias, phobias represent a defense against anxiety that stems from repressed impulses from the id. Because it is too dangerous/dangerous to "know" the repressed id impulse, the anxiety is displaced onto some external object or situation that has some symbiotic relationship to the real object of anxiety. Phobia might also be the defense against threatening impulses. We develop fear of situations that might

increase the probability of the release of ^{our} hidden impulses.

Behavioristic explanation uses the principles of classical conditioning to account for the acquisition of irrational fears and phobias. As the fear response has been shown in countless experiments to be readily conditioned to previously neutral stimuli when they are paired with traumatic or painful events. Moreover from the principles of classical conditioning we would also expect that once acquired, phobic fears would generalize to other similar objects or situations.

Direct-traumatic conditioning is not the only way in which people can learn irrational fears. Indeed much human learning including the learning of fears, is observational. Simply watching a frightening event can be distressing, and this includes watching a phobic person behaving fearfully with his or her phobic object. In this case, fears can be transmitted from one person to another through a process of vicarious or observational classical conditioning.

BIOLOGICAL CAUSES :

Two very different types of biological variables may affect the acquisition of phobias.

First, genetic and temperamental or personality variables are known to affect the speed and strength of conditioning of fear (Eysenck 1965). That is people are more or less likely to acquire phobias depending on their temperamental or personality. Indeed, Kagan and his colleagues have found that children defined as behaviorally inhibited (excessive timid, shy etc.) at 21 months of age were at higher risk for the development of multiple specific phobias at 7-8 years of age than were uninhibited children.

Second our evolutionary history has affected which stimuli we are most likely to come to fear. Human fears + phobias do not tend to occur to an arbitrary group of objects or situations that may have been associated with trauma (Marks 1969; Seligman 1971). For example people are much more likely to have phobias of snakes, water, heights + enclosed spaces than of bicycles, knives or cars, even though the latter objects may be at least as likely to be associated with trauma. These observations are contrary to what would be expected from traditional conditioning theory, which held that all objects associated with trauma would be equally likely to become objects of fear. Accordingly some theorists have argued that primates + humans may have a biologically based preparedness to rapidly associate certain kinds of objects - such as

snakes, spiders, water + enclosed space - with aversive, events (E.g. Ohman 1986) + (Seligman 1971). They have argued that this is because there may have been a selective advantage in the course of evolution for primates and humans who rapidly acquired fears of certain objects or situations that posed threats to our early ancestors. Thus prepared fears are not inborn or innate but rather easily acquired or especially resistant to extinction.

Arne Ohman and his colleagues found that fear was conditioned more effectively to fear-relevant stimuli (slides of snakes + spiders) than to fear-irrelevant stimuli (slides of flowers and mushrooms). The responses conditioned to fear-relevant stimuli were more resistant to extinction than were those conditioned to the fear-irrelevant stimuli. This is important support for classical conditioning models of phobia acquisition, because they have traditionally been criticized in part because most responses conditioned in laboratory settings (to fear-irrelevant stimuli) extinguish quite readily unlike phobias (Seligman 1971).

It also seems that individual differences in temperament + experience also make an individual vulnerable to developing ^{both} specific phobias + even social phobias (Barlow 1988).

Treatment

Psychopharmacological treatment of phobias, particularly social phobia, has received some attention in the past decade. Although there have been some promising results with the use of beta-blockers such as Inderal, which help control autonomic ~~systems~~ symptoms (Barlow 1988), it appears monoamine oxidase inhibitors are significantly more effective (Liebowitz et al 1992).

Among the psychological treatments, behavior therapy is most commonly used. The treatment involves controlled exposure to anxiety-producing situations. Two psychotherapies using this principle are Systematic Desensitization & Implosion Therapy & both have yielded good results in treatment of phobias. Assertiveness therapy has also ^{proved to be} useful for the treatment of personal phobias.

MOOD-DISORDERS

Mood disorders refer to a group of emotional disturbances associated with serious and persistent difficulty in maintaining an even productive emotional state. The clinical picture is dominated by extreme and inappropriate emotional responses especially of extreme elation or depression. Mania which is characterised by intense and unrealistic feelings of excitement and euphoria & depression which involves feeling of extraordinary sadness and dejection are two key states of mood disorder.

DSM-IV mentions Unipolar & Bipolar disorders as two prominent forms of mood disorders. In Unipolar form of disorder which is much more frequent, the person experiences only depressive episodes and in Bipolar form of disorder the person experiences both manic and depressive episodes.

Unipolar disorders include depressions of mild to moderate degree in the form of disorders of Dysthymia and Adjustment disorder with depressed mood as well as very severe depressive disorder in the form of Major depressive disorder. The core symptoms for all categories happen to be the same but they may vary only in duration and severity. The common symptoms are -

- (1) Loss of initiative.
- (2) Feelings of hopelessness and worthlessness.
- (3) Pessimism.

- (4) Anorexia loss or overeating.
- (5) Insomnia and Hypersomnia.
- (6) Psychomotor retardation.
- (7) Difficulties in concentration.
- (8) Difficulties in D.M.
- (9) Diminished interest in almost all activities most of the day.
- (10) Fatigue or loss of energy everyday.
- (11) Recurrent thoughts of death.

(A) Major Depressive Disorder.

It refers to most severe forms of depression where the person exhibits depressed mood + ^{Anhedonia} where the person exhibits depressed mood + Many of other above mentioned core symptoms of depression like loss of sleep or hypersomnia etc are also present. Most of these symptoms must be present all day + nearly everyday for two consecutive weeks for diagnosis to be applicable. The most severely depressed people may experience psychotic symptoms including delusions and hallucinations and usually symptoms are mood congruent i.e. in line with the person's depressed thinking. Most major depressive episodes clear up even without treatment in a matter of months and the average duration of untreated episode is between 8-10 months. The disorder can begin at any age but the most typical period is mid 20s.

Sub types of (MDD) Major Depressive Disorder:

Differences in the pattern of depressive episodes & their predominant symptoms have led diagnosticians to propose subcategories of MDD and there are -

(1) Melancholic type - Its main characteristics are

- (1) Significant loss of appetite & weight.
- (2) Severe anhedonia.
- (3) Inappropriate or excessive guilt.
- (4) psychomotor retardation or agitation.
- (5) early morning awakenings.

This specifier is often used to differentiate severely depressed people.

(2) Chronic Type:-

It refers to the cases of MDD that have lasted continuously for two years.

3. Atypical type:-

They show pattern of symptoms that are different from traditional symptoms. Rather than losing their appetite or having difficulty in sleeping these people eat more often gaining lot of weight.

4. Catatonic type:-

It is characterised by extreme psychomotor disturbances. The person may stay fixed in bizarre postures, some times showing waxy flexibility or may engage in agitated purposeless behavior.

They may mimic every movement someone else has made - echopraxia or engage in echolalia - a parrot-like repetition of other people's speech.

5- Seasonal Affective disorder:

Its specific feature is that depressive episodes have a clear seasonal pattern. Usually seen in locations where winter days are short & exposure to day light is limited. Symptoms include low energy, extreme fatigue and greater than normal amounts of sleeping.

(A) Post Partum type:

Depressive episode begins within 4 weeks of the birth of a child and the symptoms are similar to a typical depressive disorder, but they tend to fluctuate more of them and frequently accompanied by attacks of severe anxiety.

(B) Dysthymic disorder

Diagnosis of Dysthymic disorder is reserved for individuals who have had difficulties with chronically depressed mood and related symptoms for at least 2 years. It develops more gradually than major depression and typically doesn't involve acute disruption of person's life. People often feel inadequate and brood about the past.

Adjustment Disorder with Depressed Mood:

It is behaviorally indistinguishable from dysthymia but differs from it, in that it does not exceed 6 months in duration and it requires the existence of an identifiable psychosocial stressor in client's life within 3 months before the onset of depression.

BIPOLAR DISORDERS:

People suffering from bipolar disorder usually experience periods of depression as well as periods of either extremely elevated mood known as mania or mixed episodes in which mania + depression alternate so rapidly that they are experienced within the same day.

In most cases, women with bipolar disorder experience depression before the first manic phase, however men with bipolar disorder are likely to have manic episodes first.

Several people experience a period of normality in between the episodes of Depression of Mania.

Manic episodes can develop rapidly, in some cases in a matter of hours + must last for at least a week to be officially defined as manic episode. The person displays an abnormally elevated, expansive or irritable mood along with unlimited energy and enthusiasm.

for unrealistic goals. Psychomotor overactivity, sense of self-esteem and delusion grandeur may also occur confusion, memory loss + even suicide is uncommon especially in extreme cases. Other characteristics include —

flight of idea
distractability
decrease need for sleep.
pressure to keep talking.

The clinical picture of in Depressive episodes is just the reverse marked by symptoms such as loss of initiative, social withdrawal, insomnia, loss of enthusiasm, low self concept, and psychomotor retardation (in some cases psychomotor agitation).

Classification of Bipolar-Disorders:-

DSM IV uses label Bipolar disorder I, for cases where there is full blown manic symptoms usually accompanied by one or ~~two~~ more periods of major depression. $\frac{2}{3}$ patients diagnosed as Bipolar I.

BIPOLAR II disorder refer to cases in which a major depressive episode has occurred in addition to a period in which manic episodes are mild or hypomanic non serious enough to interfere with the person's social functioning or to require hospitalization.

realisation even though they are obvious & irritating to others.

Cyclothymic Disorder:-

This is a form of bipolar disorder in which mood fluctuates over a long period of two or more years in adult & one or more year in children, but neither depressive or manic phase is as severe as Bipolar I or II disorders. Cyclothymic disorder suggests less severe but chronic mood disturbance. In cyclothymic disorder, periods of elevated mood never reach the state of elation commonly associated with mania & low moods neither warrant a diagnosis of major depressive disorder nor interfere significantly with daily functioning.

CAUSES/Etiology

BIOLOGICAL CAUSES

Genetic Influences on Mood Disorders.

Genetic factors have been implicated in Mood disorders both Bipolar & Unipolar though genetic risks are particularly strong for Bipolar disorders. There have been many studies that have reported higher Concordance rate for Uni & bipolar disorders for monozygotic twins than dizygotic twins, thereby suggesting the role of genetic factors in the causation of Mood disorders.

Bowman & Nurnberger (1993) reported in their study

likely to occur in members of identical twins compared with non-identical twins. Evidence for a genetic component in mood disorders has also been found in family studies comparing the risk of mood disorders for various relatives of people with such disorders. These studies have consistently shown that close relatives of adults with major depressive disorder are at higher risk for such disorders than are more distant relatives.

Of course, greater environmental similarities in the lives of close relatives might help account for the results of family studies, so researchers have also used adoption studies to determine the relative contributions of genetic versus environmental factors. One adoption study found that 31 percent of the biological parents of adoptees with bipolar disorder also had a mood disorder, compared with only 2% of the parents of adoptees with no psychiatric disturbance (Mendlewicz & Rainer 1977).

Neurobiological Influences on Mood Disorders

Mood disorders are accompanied by a number of abnormalities in the central nervous system. These include abnormalities in the body's regulatory functions, such as in the production and utilization of the

chemical messengers in the brain known as neurotransmitters and in the production & impact of stress hormones, research on the relationship between neurotransmitters and depression has focused on dopamine, serotonin, the catecholamines, norepinephrine & epinephrine. These neurotransmitters are thought to regulate several important behavioral systems relevant to mood disorders, including motivation concentration & interest in others (Rogeness, Tavors & Pliszka 1992). According to the original catecholamine theory, low levels of norepinephrine lead to depression & high levels of norepinephrine lead to mania.

It turns out, however, that relationships between neurotransmission and depression are more complex than the original catecholamine theory envisioned (Rush 1993).

Current evidence suggests that dysregulation of serotonin, dopamine & norepinephrine is also associated with depression. One theory holds that low serotonin levels may allow other neurotransmitters such as dopamine & norepinephrine to swing increasingly out of control, leading to extreme moods.

Researchers are also using sophisticated technology - particularly magnetic resonance imaging (MRI) & positron emission tomography (PET) to explore differences in the brain activity of depressed and nondepressed people. They have found for example, that blood flow appears to be increased in the frontal cortex.

Neurotransmitters and Bipolar Disorder:-

Imbalances in neurotransmitters have also been associated with bipolar disorder. The catecholamine theory would lead us to expect that norepinephrine levels should be elevated during manic episodes. Consistent with this hypothesis is evidence that lithium, the most effective medication for bipolar disorder lowers norepinephrine activity in the brain (Bunney + Garland 1983).

Depression and the Endocrine System:-

Depression has also been related to the functioning of the endocrine system. This system includes the hypothalamus, which regulates functions such as sleep + appetite; the pituitary gland which regulates growth the adrenal glands a key part of endocrine system is the hypothalamic-pituitary-adrenal (HPA) axis, which plays a critical role in the body's response to stress. Biological challenges test show that

Psychological + Biological theories do not necessarily compete with each other as explanations of mood disorders. In fact most current psychological theories view biological factors as one of many risks that predispose some people to develop mood disorders. But beyond these risks psychological factors influence the development of mood disorders.

Intimate Relationships and Depression:-

Some psychological theories suggest that problems with intimate relationships can create a predisposition or act as a trigger for depression.

Psychoanalytic Theories:-

Psychoanalytic theories of depression are based on a classic paper by Sigmund Freud. In Freud's model, persons prone to depression harbor unresolved conflicts involving relationships with their caregivers in infancy + childhood. Freud said that, in childhood these people were over-indulged, suffered the loss of caregivers, or were disappointed by them in some way. As a result, they became abnormally dependent on others to make them feel adequate, + were prone to anger when their dependency needs were not met. They are also prone to feel

People with this developmental history are hypersensitive to later losses or disappointments because these later events reactivate the feelings of anger + powerlessness experienced in childhood. After the death of a loved one, eg: depression-prone people will strongly identify with or introject the lost person, perhaps as a way of denying the loss. But people who mourn this way may also feel abandoned by and angry at the deceased. Freud said that depression results when this anger is turned inward against the introjected loved one and is coupled with a sense of inadequacy from unfulfilled early needs. Freud also suggested that depression stems in part from a tendency to maintain excessively high standards, or ego-ideals. Failure to live up to these standards adds to the person's sense of guilt, failure, and worthlessness (Becker + Schmalberg 1991)

Modern psychoanalytic theorists have downplayed the importance of Freud's "anger turned inward" view of depression. Instead, they have emphasized the importance of social + cognitive factors, such as impaired self-esteem, needs for external gratification and distorted cognitive processing with in a revised psychoanalytic model (Arieti + Benjamin 1987)

John Bowlby (1980, 1988a b) proposed a model of psychopathology that draws on biological and social research on animals and humans. Like Freud, Bowlby stressed the importance of early mother-infant attachment. He noted that the nature of this attachment serves as the child's working model of the world and helps the child learn to regulate emotions. Disturbance of this attachment can lead to impaired emotional adaptation (Cassidy 1988, Kobak & Sceery 1988). Children with insecure attachments said Bowlby, learn how to recognize their own distress and how to seek support from care givers. Children with various kinds of insecure attachments may inhibit their support-seeking when distressed either because they have learned that support will not forth coming or because they are fearful of what form the support might take. (Kobak & Sceery 1988; McCauley, Kennell & Paulidis 1995)

The Role of Reinforcement :-

Peter Lewinsohn and his colleagues (1974, 1979, 1984) proposed that depression develops when people stop receiving adequate positive reinforcement from their environments, while also having many "punishing" experiences. Lewinsohn suggests three general reasons for the development of such reinforcement patterns.

An individual's environment may actually contain

in an isolated area would be a deprivation for someone who craves many friendships.

Even more important, the individual may lack the skills necessary to obtain positive results or cope with negative consequences; a person who desires friendships may be too shy or fearful of criticism to talk to strangers.

The individual may interpret events in a way that minimizes the positive + accentuates the negative, as when a person who desires friendships avoids new acquaintances because they all seem to be "snobs".

Learned Helplessness + Depression

The learned helplessness model of depression suggests that if people feel they are unable to control life events - especially stressful events - they learn a sense of helplessness that will eventually lead to depressive symptoms. Learned helplessness theory grew out of research on the response of animals to uncontrollable stressors. In this research, dogs were exposed to episodes of electric shock from which they could not escape. When these animals later experienced shocks from which they could escape, many did not even try to do so.

Shock, looking helpless and miserable (Seligman + Maier 1967). Similar results were observed in humans who had been exposed to sessions of inescapable aversive noise (Hiroto + Seligman (1975)). These and other results led Martin Seligman (1975) to hypothesize that learned helplessness in humans interferes with the ability to learn responses that could help or help them cope with life's problems; causes them to give up even trying to solve such problems, & eventually so impairs motivation, mood & self-efficacy as to leave them in a state of depression.

Beck's Cognitive Triad:

One of the most influential theories of depression is Aaron Beck's (1987) cognitive theory. According to this theory, vulnerability to depression develops during childhood when basic beliefs about the self are formulated. Beck says that basic beliefs about ^{the} self is person's self-schemas.

Negative self-schemas have little influence until they are activated by the threat that accompanies significant life stressors. When a person suffers a loss in the arena that he or she values most, negative self-schemas become activated. In line with the negative-schemas the person's thinking & interpretation of events becomes distorted, producing what Beck terms "automatic thou-

pleasant events in a negative light. As a consequence of these cognitive processes, the person begins to experience sadness + other symptoms of depression, including loss of motivation + interest in activities.

Beck + his colleagues (1979) identified several cognitive distortions or "thinking errors" that characterize how depressed people process information. These cognitive distortions make it difficult for depressed people to make realistic judgments about events, often causing them to ignore positive feedback, which in turn perpetuates their depression. This style leads to what Beck and his colleagues (1979) refer to as primitive modes of organizing reality. Ultimately the thinking of depressed person is characterized by a cognitive triad of automatic, repetitive + negative thoughts about ^{the} self, the world + the future. Depressed individuals see themselves as inadequate + therefore, worthless; they perceive the world's demands as overwhelming + they dread that the future will bring nothing but more of the same.

PSYCHOLOGICAL THEORIES OF BIPOLAR DISORDER:

Because biological causes appear to play a larger role in bipolar disorder than in unipolar depression psychological + environmental factors have not been emphasized as explanations of bipolar disorder. One early

Psychoanalytic theory suggested that bipolar disorder represents a flight from depressed feelings (Freeman 1971). According to this view manic behavior serves as a kind of defense mechanism that helps a person escape or avoid pain or loss. This account fits with the commonsense notion that one way to cheer yourself up is to go on a spending spree or vigorously pursue a distracting activity, it has failed to win scientific support.

Psychological or social factors have some effect on the course of bipolar disorder, although their roles appear less consistent & central than in unipolar depression (Monroe & Depue 1991). Stressful events, especially those that disrupt social schedules or upset biological rhythms, exert some not yet fully understood influence on the course of bipolar disorders (Johnson & Roberts 1995). Robert Post (1992) has argued that repeated or chronic stressors ultimately lead to biological changes that cause neurotransmitter systems to become increasingly sensitive to stressors. As a result of this process, the brain becomes easily affected by stressors until eventually even minor events can trigger the mood swings seen in bipolar disorder.

TREATMENT OF MOOD DISORDERS:

During the last decade clinicians have made signifi-

Drug Treatment for Depressive Disorders:

Drugs have been used to treat depressive disorders for over three decades, with considerable effectiveness. Various studies suggest that 60 to 70% of depressed adults are helped by antidepressant medications (Andreasen & Black 1991; Richelson 1993). Typically, antidepressants bring about various therapeutic effects, including brightened mood, improved sleep & increased energy.

Drug Treatments for Bipolar Disorder:

Because an acute manic episode can be so severe, hospitalization and drugs are often required to bring the symptoms under control. Since the 1970s the primary drug treatment for acute manic episodes has been lithium carbonate, commonly known as lithium.

Recent years have seen increased use of the anticonvulsant carbamazepine to treat mania because it has fewer side effects & can be used for long periods with patients who respond poorly to lithium (Richelson 1993).

Electroconvulsive therapy (ECT) is used in the cases of severe depression. Though the precautions now being taken have ~~eximined~~ eliminated most of the side effects of ECT however memory disorientation & loss are still common. Therefore its use is recommended only when other options of intervention are closed, ECT is also an effective treatment for acute mania but it is prescribed for the patients who do not respond to lithium therapy. Light-Therapy has also been found to be useful in the treatment of seasonal depression.

Psychotherapy for Mood Disorders:-

Although drugs are an important aspect of treatment for mood disorders, especially for severe depression and bipolar disorder medication alone does not address the social, emotional or personality factors that may also underlie patients' problems. Therefore psychotherapy that emphasizes psychodynamic behavioral cognitive or interpersonal approach are also used to treat adults with mood disorders. Most psychotherapies focus on depressive disorders, but several have been applied to the depressive aspects of bipolar disorder as well.

Among the psychodynamic approaches time limited dynamic psychotherapy, short term dynamic psychotherapy & supportive expressive therapy are the methods that are effective in the treatment of

depression compared to traditional psychotherapy.

Among cognitive behavioral approaches, Beck's Cognitive Therapy is particularly useful for depression treatment.

Interpersonal therapy is also effective in treatment of mood disorders.