

Book-15

Pap - II

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II - APPLICATION OF PSYCHOLOGY IN
THE FIELD OF DEFENCE

ABNORMAL PSYCHOLOGY

OBSESSIVE-COMPULSIVE DISORDER 1

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 disturbances, 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 cleaning, 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 'mild'

among obsessive-compulsives about exactly how senseless the excessive their obsessions and compulsions are (Riggs & Foa 1993). In most cases those 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

These researches have vastly improved the quality of Displays which in turn have minimised the accidents. One classic example is offered by vast improvement in Altimeter design that resulted following human engineering researches which has greatly reduced aircraft accidents. The improvement in aircraft position display has meant that pilots will have exert less effort in knowing the position & movement of aircraft. Likewise knowing human strengths & limitations relating to sustained attention have ^{helped to} improved ~~factor~~ & other ground based displays.

Like Display ~~so~~ human engineering researches on Controls have vastly helped to improve overall Military efficiency. A Control is a device for utilising human effort in activating or directing a machine. By the study of human ~~anatomy~~ anatomy & physiology the human engineering researchers have been able to arrive at effective principles of control design. Today various levers, gears or other control equipment in aircrafts, tanks, submarines etc are designed & distributed in such a manner that none of the operators hands & feet are overburdened. The operator should be provided with a support (eg backrest for pushing & foot rest for pulling) when a seated operator must apply force of more than 5 lbs (pounds) to a control. The design of ~~seating~~ seats influences

the performance of the operator. The design should ~~vary~~ according to the purpose for which seat is used & the physical characteristics of the user. Everyday experience & actual tests show that people perform more efficiently for longer duration in soft cushioned seats (1-2 inch of compression being sufficient)

Armrest should be provided when they do not interfere with necessary body movement. ~~The operator should always be provided with foot rest.~~ The backrest when provided should be high enough to provide back support upto the shoulder area & seats should be adjustable whenever the operator has to have eyes at a critical height to see a specific display.

Thus we find that human engineering in defense has gone along way in ~~pro~~ improving human-machine interface & the most recent work in this area is involving computer ~~is~~ simulation of human cognitive processes & decision making. Computer programs have been designed to mimic human thought processes & knowledge obtained thereby ~~would be~~ been used in designing ^{defense} equipments that aid or facilitate thinking & decision making. Some expert systems have also been designed which ~~are~~ can be defined as computer programs capable of achieving performances in its sphere that are qualitatively equal if not

5

superior to those of human experts in that field. The expert systems can be used to detect air space violations, detect leakages in ~~pipe~~ supply lines, identify landmines & in various other defense related activities.

Thus we find that attempt to simulate human beings & machines is throwing up new & new vistas & the future is likely to see human engineering emerge as more powerful discipline.

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 exist 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 (Akhtar 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 feel 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 ~~afflicted~~ obsessional stonors); (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

least 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

(1) 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.

MILITARY PSYCHOLOGY

HUMAN ENGINEERING IN DEFENSE

Human engineering is that endeavour which seeks to match human beings with modern machines so that their combined output will be more comfortable, safe & efficient.

To bring about a successful match between human beings & modern machines requires a cooperative effort of both engineers & psychologists with the engineers perfecting a design of ^{the} machine or equipment only after its human friendliness has been judged by the psychologists. That in designing of machines & equipment, human abilities & limitations of human capacities should not be overlooked was brought out well during WW-II where sophistication in military equipment actually created problem for military personnel because it meant observation of more complicated displays & manipulation of more complex levers & knobs. These display & control problems faced by military personnel focused attention on ^{the} importance of ~~conducting~~ ^{conducting} equipments research on taxonomies of human performance & changing equipment design to enhance human performance. This development has no doubt advanced our understanding our various perceptual motor skills which in turn has aided the improvement in military equipment but as the systems have become more complex, emphasis has shifted toward improving human performance by reducing operator workload, reducing the impact of acute stress (as in battle field conditions), & greater use of job aids. A major focus is on enhancing human decision making.

through the use of artificial intelligence & expert systems.

Display Human engineering developments have ~~though~~ resulted in more & more smoother coordination between man-machine systems which in turn has contributed greatly to enhancement in military efficiency. Let us take the case of Display which refers to any device that gives information about an event or situation, where this information cannot be obtained by sensing the event directly. This information is given to the operator through various cues such as visual cues, auditory cues etc. & is essential to run the machine effectively. Further this information should be provided to the operator as quickly as possible.

Human engineering researchers have brought into light the effectiveness of certain types of display vis-a-vis certain other kinds of display. For instance Blum & Naylor pointed out that a fixed dial with a moving pointer is superior than a moving dial with a fixed pointer. Finer markings are more helpful for speed in dial or counter reading. Researches have also shown that displays should be at eye height wherever or whenever possible & spacing between dials should be consistent & distance should be about half an inch. Further since most displays depend upon reflected light to be visible, the size of display detail should be suited to the lowest expected level of illumination.

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. E.g., 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 an 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 of research investigating the possible biological 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 in

mitter Serotonin

(2) 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 -
Exposure to the stimulus that elicits obsessive ruminations and anxiety.

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.

using positron emission tomography (PET) scans shown that patients with OCD have abnormally active metabolic levels in the orbital prefrontal cortex nucleus (Baxter, Schwartz & ~~Grice~~ ^{Grice} 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 of basal ganglia.

There is ^{also} evidence suggesting the presence of biochemical abnormalities as causal factors 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 in the treatment of O.C.D are those that affect neurotransmitter serotonin.

TREATMENT

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

situation or distress experienced in the feared situation may 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 II 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, or may act in an embarrassing or humiliating manner e.g. 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

ABNORMAL PSYCHOLOGY

PHOBIC DISORDER

14

A phobia is a persistent + disproportionate fear of some (specific) object or situation that presents 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 experiences. 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 which exposure to the phobic stimulus almost invariably provokes an immediate anxiety response". The avoidance of the feared situation or distress experienced in the feared

of avoidant personality disorder.

3) Agoraphobia -

Historically agoraphobia was thought to involve a 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 of 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 happened (DMS 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 to "know" the repressed id impulse, the anxiety is displaced onto some external object or situation that has some symbolic 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 temperament or personality. Indeed, Kagan and his colleagues have found that children defined as behaviorally inhibited (excessively 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 these 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 ~~social~~ phobias particularly social phobia has received some attention in past decade. Although there have been some promising results with the use of beta-blockers such as Inderal, which help control ~~peripheral~~ 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 is also ^{proved to be} useful for the treatment of personal phobias.

MOOD-DISORDERS

16

21

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) Appetite loss or over eating.
- (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.

Major Depressive Disorder.

It refers to most severe forms of depression where the person exhibits depressed mood & ^{anhedonia} ~~anhedonia~~.

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.

2.3

Subtypes of (MDD) Major Depressive Disorder:

Differences in the pattern of depressive episodes & their predominant symptoms have led diagnosticians to propose subcategories of MDD and these 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:

25

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, inflated sense of self esteem and delusion grandeur may also occur. Confusion, memory loss & even suicide is not uncommon especially in extreme cases. Other characteristics include -

flight of idea

distractability

decrease need for sleep.

pressure to keep talking.

The clinical picture of mania is just the reverse of that in Depressive episodes 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.

talisation even though they are obvious & irritating to others.

Cyclothymic Disorder:-

This is a form of bipolar disorder in which mood fluctuate over a long period of two or more years in an 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 disorder. Bowman & Murnberger (1993) reported in their study

that Major Depressive Disorder is about 4 times more likely to occur in both 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 (Mendelwitz + 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 especially in the production and utilization of the

chemical messengers in the brain known as neurotransmitters and in the production & impact of stress hormones. Much research on the relationship between neurotransmitters and depression has focused on dopamine, serotonin and the catecholamines, norepinephrine & epinephrine. These neurotransmitters are thought to regulate several important behavioral systems relevant to mood disorders, including motivation, concentration & interest in others (Rogers & 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 & decreased in the

parietal + posterior temporal lobes of depressed people relative to nondepressed individuals. PET scans of depressed persons have also revealed increased blood flow in the amygdala + thalamus. These structures form brain circuits that are involved in attention, alertness + emotion and are influenced by the neurotransmitters we have described.

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 challenge tests show that

depressed patients must have overactive HPA system.

31

26

Psychological Causes of Mood Disorders:

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, people 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

worthless & have fragile self-esteem.

People with this developmental background 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 & Bemporod 1978)

For example, 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. Disturbances of this attachment can lead to impaired emotional adaptation (Casoldy 1988, Kobak & Sceery 1988). Children with secure 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, Kendall & 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 few

positive elements and many negative ones, e.g. living in an isolated area would be a deprivation for someone who craves many friendships.

- (2) 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.
- (3) 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".

3) 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. They just tolerated the

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 solve 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 thoughts". Soon the person begins to see neutral or even

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 represented 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. While 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 any 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:

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Treatments for mood disorders.

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 (Post, 1990, 1993).

Other Biological Treatments for Mood Disorders

34

39

Electro Convulsive Therapy (ECT) can be 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 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 take less time & 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.