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**“A COMPARATIVE STUDY OF TYPE-D PERSONALITY,
DEPRESSION AND EGO STRENGTH AMONG
PSYCHOSOMATIC DISEASES AND
NORMAL PEOPLE”**

**A
DISSERTATION
SUBMITTED TO
SAURASHTRAUNIVERSITY
FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY IN PSYCHOLOGY
UNDER THE FACULTY OF ARTS**

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REGISTRATION NO: **4321**

DATE: 1st JANUARY 2011

JANUARY-2013



CERTIFICATE

This is to certify that thesis “A COMPARATIVE STUDY OF TYPE-D PERSONALITY, DEPRESSION AND EGO STRENGTH AMONG PSYCHOSOMATIC DISEASES AND NORMAL PEOPLE” submitted by Mr. KRUSHANSINH J. Zala to Saurashtra University, Rajkot for the Degree of Doctor of philosophy in psychology is a record of bonafied research work carried out by him under my Supervision and Guidance for the last two years. The results embodied in the thesis have not been submitted to any other Degree or Diploma.

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DECLARATION

I hereby declare that the research work presented in this thesis is prepared by me after studying several references. The descriptions and narrations found therein are entirely original. Therefore, I declare them authentically as original. Moreover, I am responsible for the opinions and other details found in thesis.

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chapter-1

Introduction

1.1 Introduction :

We all know that today rapid changes are being carried out in every walk in life. Due to the development of science and technology and industrialization, urbanization in modern age. We live in a world full of uncertainties. However, One thing is certain i.e., Stress, it is here to stay and cannot be ignored. The world of work is ever changing. There may be an emphasis on competition, pressure to achieve target and meet deadlines, or to keep up with the rapid advancements in the technology the threat of redundancy may be looming. So the changed life style has increased human needs due to blind running after the means of material happiness, the proportion of complication, conflict, depression, stress, anxiety, pressure have increased such situation produces stress. There are individual differences in coping style with such stressful situation. Some people face stressful situation quietly, while some people become the victim of behavioral disorders. So we see the actual meaning for psychosomatic disorder, Type D personality, Depression and Ego strength etc.

1.2 Psychosomatic disorders:

Today psychosomatic diseases word is famous for medical dictionary. We also know that most of diseases are affected to psychosomatic reason. So let's now we see the history of psychosomatic.

1.2.1 A History of psychosomatics

In the **medieval Islamic world** the Persian **Muslim psychologist-physicians Ahmed ibn Sahl al-Balkhi (d. 934)** and **Haly Abbas (d. 994)** developed an early understanding of illness that was due to the interaction of the mind and the body. They realized how a patient's physiology and psychology can have an effect on one another. They found correlations between patients who were physically and mentally healthy and between those who were **physically and mentally ill**.

Franz Alexander led in the beginnings of the 20th century, the movement looking for the dynamic interrelation between mind and body. **Sigmund Freud** pursued a deep interest in psychosomatic illnesses following his correspondence with **Georg**

Groddeck who was, at the time, researching the possibility of treating physical disorders through psychological processes.

Since the **1970s**, due to the work of **Thure von Uexküll** and his colleagues in **Germany** and elsewhere, **biosemiotic** theory has been used as a theoretical basis for psychosomatic medicine. Particularly, the concept and the theory of organism by **Jakob von Uexküll** have been found useful as an approach to describe **psychosomatic phenomena**.

Psychosomatic disorder, also called Psycho physiologic Disorder, condition in which psychological stresses adversely affect physiological (somatic) functioning to the point of distress. It is a condition of disfunction or structural damage in body organs through inappropriate activation of the involuntary nervous system and the glands of internal secretion. Thus, the psychosomatic symptom emerges as a physiological concomitant of an emotional state. In a state of rage, for example, the angry person's blood pressure is likely to be elevated and his pulse and respiratory rate to be increased. When the anger passes, the heightened physiologic processes usually subside. If the person has a persistent inhibited aggression (chronic rage), however, which he is unable to express overtly, the emotional state remains unchanged, though unexpressed in the over behavior, and the physiological symptoms associated with the angry state persist. With time, such a person becomes aware of the physiological dysfunction. Very often he develops concern over the resulting physical signs and symptoms, but he denies or is unaware of the emotions that have evoked the symptoms.

Psychosomatic disorders may affect almost any part of the body, though they are usually found in systems not under voluntary control. Research by psychiatrist Franz **Alexander** and his colleagues at the Chicago Institute of Psychoanalysis in the 1950s and 1960s suggested that specific personality traits and specific conflicts may create particular psychosomatic illnesses, but it is generally believed that the form a disorder takes is due to individual vulnerabilities. Emotional stress is assumed to aggravate existing illnesses, and there is some evidence that it may precipitate illnesses not usually considered to be psychosomatic (*e.g.*, **cancer, diabetes**) in individuals predisposed to them.

Psychosomatic disorders resulting from stress may include hypertension, respiratory ailments, gastrointestinal disturbances, migraine and tension headaches, pelvic pain, impotence, frigidity, dermatitis, and ulcers.

Many patients suffering from psychosomatic diseases respond to a combination of drug therapy, psychoanalysis, and behavior therapy. In less severe cases, patients can learn to manage stress without drugs.

Some physical diseases are believed to have a mental component derived from the stresses and strains of everyday living. This is the case, for example, of lower back pain and high blood pressure, which appear to be partly related to stresses in everyday life. Psychiatry has found it difficult until relatively recently to distinguish somatoform disorders, disorders in which mental factors are the sole cause of a physical illness, from psychosomatic disorders, disorders in which mental factors play a significant role in the development, expression, or resolution of a physical illness.

For instance, while peptic ulcer was once thought of as being purely caused by stress, later research revealed that *Helicobacter pylori* caused 80% of ulcers. However 4 out of 5 people colonized with *Helicobacter pylori* do not develop ulcers, and an expert panel convened by the Academy of Behavioral Medicine Research concluded that ulcers are not merely an infectious disease and that mental factors do play a significant role. One likelihood is that stress diverts energy away from the immune system thereby stress promotes *Helicobacter pylori* infection in the body.

It is still difficult to classify some disorders as purely physical, mixed psychosomatic, or purely somatoform. One example is Irritable Bowel Syndrome (IBS) that was considered formerly as having purely mental causes, while subsequent research showed significant differences in the behavior of the gut in IBS patients. On the other hand, there are no actual structural changes in IBS patients and research shows that stress and emotions are still significant factors in causing IBS. However, while it is necessary to identify if an illness has a physical basis, it is recognized more and more that the effort to identify disorders as purely physical or mixed psychosomatic is increasingly obsolete as almost all physical illness have mental factors that determine their onset, presentation, maintenance, susceptibility to treatment, and resolution.

Addressing such factors is the remit of the applied field of behavioral medicine in modern society; psychosomatic aspects of illness are often attributed to stress making the remediation of stress one important factor in the development, treatment, and prevention of psychosomatic illness.

1.2.2 Connotations of the term "psychosomatic illness"

Psychosomatic medicine is not to be confused with the demotic and scientifically incorrect use of the phrase "psychosomatic illness" to apply to illnesses that are now called somatoform disorders. Such illness is classified as neurotic, stress-related and somatoform disorders by the World Health Organization in the International Statistical Classification of Diseases and Related Health Problems. The field of psychosomatic medicine fell into disrepute clinically due to this incorrect use of this term, which was largely due to the influence of psychoanalytic theory on psychiatric physicians and the inaccurate application by non-specialists in the first part of the 20th century who considered this form of illness to be akin to malingering, thereby further harming the sufferer. For this reason, among others, the field of Behavioral Medicine has taken over much of the remit of Psychosomatic Medicine in practice and there exist large areas of overlap in the scientific research.

1.2.3 Treatment

Psychosomatic medicine is considered a subspecialty of the fields of psychiatry and neurology. **Medical treatments** and **psychotherapy** are used to treat psychosomatic disorders.

So we say that today psychosomatic diseases are burning issue, many key factors are affected like as Type D personality, Depression, Stress, Ego strength etc. so now we see the some key factors affected to psychosomatic illness. In the present main two classification assessment for psychosomatic diseases are DSM iv and I.C.D. so we see classification for I.C.D.

1.2.4 International Statistical Classification of Diseases and Related Health Problems

The **International Classification of Diseases** (most commonly known by the abbreviation **ICD**) is according to its publisher, the **United Nations**-sponsored **World Health Organization** "the standard diagnostic tool for epidemiology, health management and clinical purposes." **It is known as a health care classification system that provides codes to classify diseases and a wide variety of signs, symptoms, abnormal findings, complaints, social circumstances,** and external causes of injury or disease. Under this system, every health condition can be assigned to a unique category and given a code, up to six characters long. Such categories can include a set of similar diseases.

The International Classification of Diseases is published by the World Health Organization (WHO) and used worldwide for morbidity and mortality statistics, reimbursement systems, and automated decision support in health care. This system is designed to promote international comparability in the collection, processing, classification, and presentation of these statistics. The ICD is a core classification of the

1.2.5 WHO Family of International Classifications (WHO-FIC)

The ICD is revised periodically and is currently in its tenth revision. The **ICD-10**, as it is therefore known, was developed in **1992** to track health statistics. **ICD-11** is planned for 2015 and will be revised using Web 2.0 principles. Annual minor updates and triennial major updates are published by the WHO. The ICD is part of a "family" of guides that can be used to complement each other, including also the International Classification of Functioning, Disability and Health which focuses on the domains of functioning (disability) associated with health conditions, from both medical and social perspectives.

1.2.6 Historical synopsis

In 1893, a French physician, **Jacques Bertillon**, introduced the *Bertillon Classification of Causes of Death* at a congress of the International Statistical Institute in Chicago. A number of countries and cities adopted Dr. Bertillon's system, which was based on the principle of distinguishing between general diseases and those localized to a particular organ or anatomical site, as used by the City of Paris for classifying deaths.

Subsequent revisions represented a synthesis of English, German and Swiss classifications, expanding from the original **44 titles to 161 titles**. In **1898**, the **American Public Health Association (APHA)** recommended that the registrars of Canada, Mexico, and the United States also adopt it. The APHA also recommended revising the system every ten-year to ensure the system remained current with medical practice advances. As a result, the first international conference to revise the International Classification of Causes of Death convened in 1900; with revisions occurring every ten-year thereafter. At that time the classification system was contained in one book, which included an Alphabetic Index as well as a Tabular List. The book was small compared with current coding texts.

The revisions that followed contained minor changes, until the sixth revision of the classification system. With the sixth revision, the classification system expanded to two volumes. The sixth revision included morbidity and mortality conditions, and its title was modified to reflect the changes: *International Statistical Classification of Diseases, Injuries and Causes of Death (ICD)*. Prior to the sixth revision, responsibility for ICD revisions fell to the Mixed Commission, a group composed of representatives from the **International Statistical Institute** and the Health Organization of the **League of Nations**. In **1948**, the **World Health Organization (WHO)** assumed responsibility for preparing and publishing the revisions to the ICD every ten-year. WHO sponsored the seventh and eighth revisions in 1957 and 1968, respectively. It later becomes clear that the established ten-year interval between revisions was too short.

The ICD is currently the most widely used statistical classification system for diseases in the world. International health statistics using this system are available at the **Global Health Observatory (GHO)**. In addition, some countries—including Australia, Canada and the United States—have developed their own adaptations of ICD, with more **procedure codes** for classification of operative or diagnostic procedures.

1.2.7 Versions of ICD

1.2.7.1 ICD-6

The ICD-6, published in 1949, was the first to be shaped to become suitable for morbidity reporting. Accordingly the name changed from International List of Causes of

Death to International Statistical Classification of Diseases. The combined codes for injury and causing accident were split into a chapter for injuries, and in one for the external causes. With use for morbidity there was a need for coding mental conditions and for the first time a section on mental disorders was added.

1.2.7.2 ICD-7

The International Conference for the Seventh Revision of the International Classification of Diseases was held in Paris under the auspices of **WHO**, in **February 1955**. In accordance with a recommendation of the WHO Expert Committee on Health Statistics, this revision was limited to essential changes and amendments of errors and inconsistencies.

1.2.7.3 ICD-8

The Eighth Revision Conference convened by WHO met in **Geneva, from 6 to 12 July 1965**. This revision was more radical than the Seventh but left unchanged the basic structure of the Classification and the general philosophy of classifying diseases, whenever possible, according to their etiology rather than a particular manifestation. During the years that the Seventh and Eighth Revisions of the ICD were in force, the use of the ICD for indexing hospital medical records increased rapidly and some countries prepared national adaptations which provided the additional detail needed for this application of the ICD. In the USA, a group of consultants was asked to study the 8th revision of ICD (ICD-8) for its applicability to various users in the United States. This group recommended that further detail be provided for coding hospital and morbidity data. The American Hospital Association's "Advisory Committee to the Central Office on ICDA" developed the needed adaptation proposals, resulting in the publication of the **International Classification of Diseases, Adapted (ICDA). In 1968**, the United States Public Health Service published the International Classification of Diseases, Adapted, 8th Revision for use in the United States (**ICDA-8**). Beginning in 1968, ICDA-8 served as the basis for coding diagnostic data for both official morbidity statistics in the United States.

1.2.7.4 ICD-9

The International Conference for the **Ninth Revision** of the International Classification of Diseases, convened by WHO, met in **Geneva from 30 September to 6 October 1975**. In the discussions leading up to the conference, it had originally been intended that there should be little change other than updating of the classification. This was mainly because of the expense of adapting data processing systems each time the classification was revised. There had been an enormous growth of interest in the ICD and ways had to be found of responding to this, partly by modifying the classification itself and partly by introducing special coding provisions. A number of representations were made by specialist bodies which had become interested in using the ICD for their own statistics. Some subject areas in the classification were regarded as inappropriately arranged and there was considerable pressure for more detail and for adaptation of the classification to make it more relevant for the evaluation of medical care, by classifying conditions to the chapters concerned with the part of the body affected rather than to those dealing with the underlying generalized disease. At the other end of the scale, there were representations from countries and areas where a detailed and sophisticated classification was irrelevant, but which nevertheless needed a classification based on the ICD in order to assess their progress in health care and in the control of disease. A field test with a bi-axial classification approach - one axis for anatomy, another for etiology - showed the impracticability of such approach for routine use. The final proposals presented to and accepted by the Conference retained the basic structure of the ICD, although with much additional detail at the level of the four digit subcategories, and some optional five digit subdivisions. For the benefit of users not requiring such detail, care was taken to ensure that the categories at the three digit level were appropriate. For the benefit of users wishing to produce statistics and indexes oriented towards medical care, the Ninth Revision included an optional alternative method of classifying diagnostic statements, including information about both an underlying general disease and a manifestation in a particular organ or site. This system became known as the dagger and asterisk system and is retained in the Tenth Revision. A number of other technical innovations were included in the Ninth Revision, aimed at increasing its flexibility for use in a variety of situations. It was eventually replaced by ICD-10, the version currently in use by the WHO and most countries. Given the widespread expansion in the tenth

revision, it is not possible to convert ICD-9 data sets directly into ICD-10 data sets, although some tools are available to help guide users. Publication of ICD-9 without IP restrictions in a world with evolving electronic data systems lead to a range of products that are based on ICD-9, as MeDRA or the Read directory.

1.2.7.5 ICPM

When ICD-9 was published by the World Health Organization (WHO), the International Classification of Procedures in Medicine (ICPM) was also developed (1975) and published (1978). The ICPM surgical procedures fascicle was originally created by the United States, based on its adaptations of ICD (called ICDA), which had contained a procedure classification since 1962. ICPM is published separately from the ICD disease classification as a series of supplementary documents called fascicles (bundles or groups of items). Each fascicle contains a classification of modes of laboratory, radiology, surgery, therapy, and other diagnostic procedures. Many countries have adapted and translated the ICPM in parts or as a whole and are using it with amendments since then.

1.2.7.6 ICD-9-CM

International Classification of Diseases, Clinical Modification (ICD-9-CM) is an adoption created by the U.S. **National Center for Health Statistics (NCHS)** and used in assigning diagnostic and procedure codes associated with inpatient, outpatient, and physician office utilization in the United States. The ICD-9-CM is based on the ICD-9 but provides for additional **morbidity** detail. It is updated annually on October 1. It consists of two or three volumes:

- **Volumes 1 and 2 contain, diagnosis codes** (Volume 1 is a tabular listing, and volume 2 is an index.) Extended for ICD-9-CM
- **Volume 3 contains procedure codes.** ICD-9-CM only

The NCHS and the Centers for Medicare and Medicaid Services are the U.S. governmental agencies responsible for overseeing all changes and modifications to the ICD-9-CM.

1.2.7.7 ICD-10

Work on ICD-10 began in 1983 and the new revision was endorsed by the Forty-third **World Health Assembly in May 1990**. The latest version came into use in WHO Member States starting in 1994. The classification system allows more than 155,000 different codes and permits tracking of many new **diagnoses** and **procedures**, a significant expansion on the **17,000 codes** available in ICD-9. Adoption was relatively swift in most of the world. Several materials are made available online by WHO to facilitate its use, including a manual, training guidelines, a browser, and files for download. Some countries have adapted the international standard, such as the "ICD-10-AM" published in Australia in 1998 (also used in New Zealand), and the "ICD-10-CA" introduced in Canada in 2000.

1.2.7.8 ICD-10-CM

Adoption of ICD-10 has been slow in the United States. Since 1979, the USA had required ICD-9-CM codes for **Medicare** and **Medicaid claims**, and most of the rest of the American medical industry followed suit. On 1 January 1999 the ICD-10 (without clinical extensions) was adopted for reporting mortality, but ICD-9-CM was still used for morbidity. Meanwhile, NCHS received permission from the WHO to create a clinical modification of the ICD-10, and has production of all these systems:

- ICD-10-CM, for diagnosis codes, is intended to replace volumes 1 and 2. Annual updates are provided.
- ICD-10-PCS, for procedure codes, is intended to replace volume 3. Annual updates are provided.

On August 21, 2008, the **US Department of Health and Human Services** (HHS) proposed new code sets to be used for reporting diagnoses and procedures on health care transactions. Under the proposal, the ICD-9-CM code sets would be replaced with the ICD-10-CM code sets, effective October 1, 2013. On April 17, 2012 the Department of Health and Human Services (HHS) published a proposed rule that would delay, from October 1, 2013 to October 1, 2014, the compliance date for the ICD-10-CM and PCS.

1.2.7.9 ICD-10-CA

ICD-10-CA is a clinical modification of ICD-10 developed by the Canadian Institute for Health Information for morbidity classification in Canada. ICD-10-CA applies beyond acute hospital care, and includes conditions and situations that are not diseases but represent risk factors to health, such as occupational and environmental factors, lifestyle and psycho-social circumstances.

1.2.7.10 ICD-11

The World Health Organization is currently revising the International Classification of Diseases (ICD) towards the ICD-11. The development is taking place on an internet-based workspace, called CAT (Collaborative Authoring Tool) Platform, somewhat similar to Wikipedia –yet it requires more structure and peer review process. The WHO collaborates through this platform with all interested parties.

The final draft of the ICD-11 system is expected to be submitted to WHO's World Health Assembly (WHA) for official endorsement by 2015. The beta draft was made available online in May 2012 for initial consultation and commenting.

1.2.7.11 In ICD-11

Each disease entity will have definitions that give key descriptions and guidance on what the meaning of the entity/category is in human readable terms - to guide users. This is advancement over ICD-10. Because in ICD-10 there were only title headings. The Definitions have a standard structure according to a template with standard definition templates and further features exemplified in a “Content Model”. The Content Model is a structured framework that captures the knowledge that underpins the definition of an ICD entity. The Content Model therefore allows computerization with links to ontologism and SNOMED CT. Each ICD entity can be seen from different dimensions or “parameters”. E.g. there are currently 13 defined main parameters in the Content Model (see below) to describe a category in ICD.

1.3 TYPE D PERSONALITY

Type D personality, a concept used in the field of medical psychology, is defined as the joint tendency towards **negative affectivity** (e.g. **worry, irritability,**

gloom) and **social inhibition** (e.g. **reticence and a lack of self-assurance**). The letter D stands for '**distressed**'.

Individuals with a Type D personality have the tendency to experience increased negative emotions across time and situations and tend not to share these emotions with others, because of fear of rejection or disapproval. **Johan Denollet, professor of Medical Psychology at Tilburg University, Tilburg, the Netherlands**, developed the construct based on clinical observations in cardiac patients, empirical evidence, and existing theories of personality. The prevalence of Type D personality is 21% in the general population and ranges between 18 to 53% in cardiac patients.

Research has shown that CHD patients with a Type D personality have a worse prognosis following a **myocardial infarction** (MI) as compared to patients without a Type D personality. Type D is associated with a 4-fold increased risk of mortality, recurrent MI, or sudden cardiac death, independently of traditional risk factors, such as disease severity.

Type D personality can be assessed by means of a **valid and reliable 14-item questionnaire, the Type D Scale (DS14)**. Seven items refer to negative affectivity, and seven items refer to social inhibition. People who score 10 points or more on both dimensions are classified as Type D. The DS14 can be applied in **clinical practise** for the risk stratification of cardiac patients.

Type D has also been addressed with respect to common somatic complaints in childhood.

1.3.1 Type D characteristics

Type D individuals score highly on negative affectivity and social inhibition personality dimensions. Negative affectivity is defined as the 'tendency to experience negative emotions,' including depressed mood, anxiety, anger, and hostile feelings. Individuals scoring high on negative affectivity are not only **dysphoric** but have a negative view of self, report more somatic symptoms, and have an attention bias towards adverse stimuli. As Denollet astutely notes, individuals who score high on negative affectivity seem to scan the world for signs of impending trouble.

Social inhibition is described as ‘the avoidance of potential ‘dangers’ involved in social interactions such as disapproval or non-reward by others.’ Individuals scoring high on social inhibition frequently feel inhibited, tense, uncomfortable, and insecure when encounter with other people. Both negative affectivity and social inhibition are associated with the perception of a socially unsupportive environment.

Type D is defined as the interaction of negative affectivity (which is closely related to neuroticism) and social inhibition. Social inhibition is a moderator: the prevalence of cardiac events for individuals who score high in negative affectivity but low in social inhibition is less than for that for individuals scoring highly in both components. In other words, the type D concept suggests that the way people cope with negative emotions may be as important as the experience of negative emotions per se.

Personality type D is assessed with a scale that measures **negative affectivity and social inhibition**. Each item is rated according to a **5-point Likert scale from 0 (false) to 4 (true)**. Patients, who score high on both negative affectivity and social inhibition, as determined by a median split, are classified as type D. The psychometric qualities and prognostic power of the scale have been proved satisfactory in Belgian cardiac patients with **Cronbach's α of 0.89 and 0.82 and test–retest reliability of 0.78 and 0.87 for the Negative Affectivity and Social Inhibition subscales, respectively**. The two-factor structure and the internal consistency of the Negative Affectivity and Social Inhibition subscales were recently confirmed in studies of Danish and German cardiac patients.

The data on the relation of type D personality with mood and anxiety disorders are limited. There is evidence that type D personality is associated with depressive and anxiety symptoms, and with post-traumatic stress disorder. Type D personality may be related to social phobia and panic disorder, because its clinical and biological correlates could be thus attributed. Type D individuals may also have a predis position to develop avoidant personality disorder.

1.3.2 Final words about Type D personality

Your current personality is the result of the past experiences you have been through and your coping skills. By changing your coping skills you can change your

personality or get rid of the unwanted traits that you dislike. In short, if you are a Type D you can certainly change that.

To know myself is not a complicated medical website nor a boring online encyclopedia but rather a place where you will find simple, to the point and effective information that is backed by psychology and presented in a simple way that you can understand and apply. If you think that this is some kind of marketing type then see what other visitors say about to know myself. The **Solid confidence program** was launched by to know myself.com; the program will either help you become more confident or give you your money back.

1.3.3 The D stands for distressed

The new report, published in the September 14, 2010 issue of **Circulation: Cardiovascular Quality and Outcomes**, attempts to provide an estimate of the prognostic risk associated with type-D personality. In this meta-analysis of nine studies published from 1995 to 2009, including patients with coronary artery disease, previous MI, congestive heart failure, recent heart transplantation, and peripheral artery disease, type-D personality was associated with a 3.7-fold increased risk of poor long-term prognosis, including an increased risk of mortality, cardiac death, and MI.

To **heart wire**, Denollet said the follow-up in the individual studies examining the link between the distressed personality type and cardiac events ranged from one year to six to 10 years.

"Most of the studies went to three, four, or five years, so this is more about the mid-term risk of events," he said. "It's not about the immediate risk in patients who were just diagnosed, but more what happens in the years to come when patients have been diagnosed and treated with invasive treatments or with drugs."

Denollet said that biological mediating mechanisms, such as stress hormones like cortisol, potentially play a role in the increased risk of cardiovascular events. In an unrelated study published last week in the *Journal of Clinical Endocrinology and Metabolism*, researchers, led by **Dr Nicole Vogelzangs** (VU University Medical Center, Amsterdam, and the Netherlands) provided further support for the harmful role of cortisol

on the heart. In the study of 861 individuals 65 years and older, higher urinary cortisol levels were associated with an increased risk of cardiovascular death.

Continuing, Denollet said that there is also evidence showing an increase in proinflammatory cytokines in type-D patients with chronic heart failure, which in turn increases risk of cardiovascular events. Importantly, these distressed individuals might also possess critical behavioral characteristics, such as being less likely to quit smoking, participate in physical activity, or comply with medical therapy, that increase their risk of cardiovascular events.

"In terms of treatment, it's important to get these patients involved in cardiac rehabilitation programs, including exercise training," Denollet told *heart wire*. "I would also advise doctors to more closely monitor these patients, maybe by getting them into the office for a more regular checkup or even by telephone to see how they're doing and to pay particular attention to things like quitting smoking." An analysis of 11 studies also showed that type-D personality was associated with a threefold increased risk of emotional distress, including poor mental health, anxiety, and depression.

Many studies have demonstrated the role of psychosocial and behavioral risk factors in the etiology and pathogenesis of cardiovascular disorders. The most well known of these factors is type A behavior pattern, which includes ambitiousness, aggressiveness, competitiveness, impatience, muscle tenseness, alertness, rapid and empathic vocal style, irritation, cynicism, hostility, and increased potential for anger. Type A individuals are at increased risk for developing coronary heart disease.

Recently, a new personality construct, the type D or 'distressed' personality, has been proposed. This construct is a result of an investigation of coping styles in men with coronary heart disease. Type D personality subtype is characterized by the joint tendency to experience negative emotions and to inhibit these emotions while avoiding social contacts with others. In other words, the type D personality is a gloomy, anxious, and socially inept worrier. Type D individuals generally have fewer personal ties with other people and tend to feel less comfortable with strangers.

1.3.4 Type D and cardiac events

The inhibition of emotions has been associated with higher cardiovascular reactivity, lower cardiovascular recovery, lower heart rate variability, and, in the long term, carotid atherosclerosis, incidence of coronary heart disease, and cardiac mortality. In a sample of patients undergoing cardiac rehabilitation, deaths from cardiac causes were increased four-fold in those with type D personality, even after controlling for conventional risk factors. This observation was later replicated in an independent sample of more than 300 patients with coronary heart disease. Type D was an independent predictor of cardiac mortality and non-fatal myocardial infarction, and also of a composite endpoint of cardiac mortality, non-fatal myocardial infarction, coronary artery bypass surgery, and percutaneous transluminal coronary angioplasty.

A study of cardiac patients with a decreased left ventricular ejection fraction demonstrated that type D personality was an independent predictor of a composite endpoint of mortality due to cardiac causes together with a decreased left ventricular ejection fraction. In this study, **type B behavior, depression, anxiety, and anger did not add to the predictive power of type D personality.** Appels *et al.* investigated the effect of type D behaviour on sudden cardiac death. Next-of-kin of the sudden cardiac death victims were interviewed. Patients scoring high on negative affectivity and social inhibition were at seven-fold increased risk of sudden cardiac death, after controlling for biomedical risk factors. Type D personality and older age were independent predictors of the development of cancer in patients with coronary heart disease.

A recent study suggests that type D personality is associated with increased depressive and anxiety symptoms in patients with an implantable cardioverter defibrillator. Another recent study investigated the effect of type D personality on the occurrence of adverse events at 9 months in patients with ischemic heart disease after percutaneous coronary intervention with sirolimus-eluting stents or bare stents. Type D patients were at a cumulative increased risk of adverse outcome, compared with non-type D subjects.

Type D personality (whether as a biological construct of temperament or a constellation of habitual behaviours) is a risk factor at least equivalent in importance to

the other, ‘conventional’ coronary heart disease prognostic factors. Importantly, major depression is a very significant risk factor for cardiovascular disorders. That cardiac patients with the type D personality are at increased risk for cardiovascular morbidity and mortality, underlines the importance of examining both acute (e.g. major depression) and chronic (e.g. certain personality features) factors in people who are at risk for coronary events. We need to adopt a personality approach in the early identification of those coronary patients who are at risk for stress-related cardiac events. Psychological risk factors tend to cluster together, and clustering of these factors, in turn, considerably elevates the risk for cardiac events.

1.3.5 Type D, stress, and cortisol

Type D individuals tend to experience negative emotions such as depressed mood, anxiety, anger, hostile feelings, and to inhibit these emotions while avoiding social contacts. Situations involving fear, anxiety, helplessness, and loss of control result in release of cortisol. The relationship between negative affect and cortisol activity has been documented in several studies using structured laboratory stressors, such as public speaking and mental arithmetic and aversive stimulation, and in the scientific literature related to changes in the hypothalamic-pituitary-adrenal (HPA) axis in depressed patients. A recent study has documented relationships among negative affect, positive affect and cortisol in response to naturalistic stressors. Both the experience of a current stressor and anticipating a stressor were associated with increased salivary cortisol levels. Negative affect was associated with higher cortisol levels and positive affect was associated with lower cortisol levels. Another study also found that stressful daily events were associated with increased cortisol secretion in healthy volunteers. Distress, as reflected by the mood states ‘negative affect’ and ‘agitation’, was associated with higher cortisol levels. Mood plays a mediating role in the relationship between stressful events and cortisol secretion. Negative affectivity is not just a confounder, but is related to elevated cortisol secretion during normal daily activities. In a recent study, both type D dimensions (negative affectivity and social inhibition) were associated with greater cortisol reactivity to stress, although the results were not significant in more stringent regression analyses. However, it is reasonable to suggest that there is a difference in HPA regulation in type D individuals and in people with other personality types.

1.3.6 Elevated cortisol and medical illness

Depression appears to be an independent risk factor for the development of coronary heart disease and osteoporosis, and affects the prognosis of these and other medical disorders. Considerable evidence suggests an association between depression and hypertension, peptic ulcers, and diabetes. Elevated cortisol may be a mediating factor in these relationships. Cortisol has many effects that promote coronary heart disease. For example, cortisol inhibits the growth hormone and **Gonadal axes**. Growth hormone deficiency is associated with higher relative risk for premature cardiovascular disease in **adults**. **Cortisol** is a potent stimulus to visceral fat. Inhibition of the growth hormone and gonadal axes exacerbates visceral fat accumulation. Excess visceral fat leads to dyslipidaemia and, along with hypercortisolism, to insulin resistance, hyperinsulinism, and their sequelae. Similar mechanisms may increase the vulnerability of type D individuals to cardiac and other medical illnesses. Elevated cortisol may be a mediating factor in the association between type D personality and the increased risk for coronary heart disease and, possibly, other medical disorders. It is important to note that cortisol is not the only mediating factor in this association. A recent study suggests that type D personality is associated with increased circulating levels of **cytokine tumour necrosis factor α** and its soluble receptors 1 and 2, which are predictors of mortality in chronic heart failure.

1.3.7 HPA function, ageing, and type D personality

Depression is associated with impairment in feedback control of the HPA axis, contributing to higher cortisol levels during episodes of depression. **Prolonged exposure** to elevated cortisol levels may be **neurotoxin**, especially for brain regions rich in corticosteroid receptors, and may mediate neuronal vulnerability to stressors. Recurrent depression is associated with atrophy of the hippocampus and amygdala, as well as the prefrontal cortex. A gradual deterioration of **hippocampus feedback** inhibition of the HPA axis due to down-regulation of **glucocorticoid receptors** from repeated stress has been demonstrated. Evidence suggests that age and/or length of depression and/or the number of depressive episodes affect HPA regulation in depressed patients. The potentiating or additive effect of age in conjunction with depression on pituitary

adrenocortical activity was suggested by a number of studies. Mean 24-h cortisol level increases with age in depression.

Elderly depressives who are cortisol non-suppressors after dexamethasone need more time for pituitary adrenocortical normalization to occur than do younger subjects. An increase in post-dexamethasone cortisol levels with age has been reported in major depressive disorder. A significant effect of age on cortisol release in depressed patients has been observed during the combined dexamethasone-**corticotrophin**-releasing hormone test: older patients had higher post-dexamethasone cortisol levels. In patients with endogenous depression, advancing age leads to higher baseline cortisol and a greater likelihood of being a dexamethasone non-suppressor. Cortisol responses to fenfluramine administration in depressed patients increased with the number of major depressive episodes. Other authors have reported similar observations.

However, a number of authors suggest that age *does* affect HPA regulation in healthy humans. Differences in the results of studies have been explained by differences in a sample size, screening criteria, and some other factors, such as differences in sleeping patterns. Equivocal results of these studies may be, in part, related to a different prevalence of type D individuals in study samples: i.e. some type D individuals may have alterations within the HPA axis that are similar to HPA axis changes in depressed patients. Future studies of HPA function should control for the presence of type D individuals. Type D individuals should perhaps not participate in psychobiological studies as healthy controls. Studies of HPA function should also control for other personality traits that may affect the HPA axis. For example, individuals with borderline or antisocial personality features may have HPA axis abnormalities.

1.3.8 "Distressed"-personality heart-disease patients at increased risk of future events

Tilburg, the Netherlands - Heart-disease patients with a general propensity to psychological distress are at a significantly higher risk of adverse cardiovascular events, according to the results of a new analysis. In identifying individuals with the type-D personality construct, physicians might be able to better identify high-risk patients at risk for future events, say researchers.

"This is the type of patient that tells you everything is okay, that there are no problems, but you can sense that something is going on, something is not quite right," explained lead investigator **Dr Johan Denollet** (Tilburg University, the Netherlands).

Speaking with heartwire, Denollet said that type-D personality, a relatively new construct, is a combination of two fairly normal personality traits. It is not to be confused with depression, he said, noting that while there is some overlap between type D and depression, many type-D patients do not meet the clinical criteria for depressive illness.

"On the one hand, type-D people have the tendency to experience negative emotions, such as anxiety, depression, stress, and so on," he said. "At the same time, they also score higher [on tests] measuring social inhibition. Type-D patients are more closed in social interactions and are more unlikely to disclose their personal feelings toward others and tend to feel a bit insecure. This combination makes them more liable to chronic forms of psychological distress."

1.3.9 What to do if you have a Type D personality

The first thing you must understand about personality types is that they have nothing to do with genes. This means that if you have a Type D personality then this doesn't mean that you can't change it.

The problem with personality type quizzes that people find on the internet is that they make them believe that the result of the quiz determines their destiny rather than letting them know that according to psychology any personality trait can be changed.

Here is how to change if you are a Type D personality:

1.3.9.1 Learn how to control your emotions: Contrary to common beliefs almost everyone can control his emotions even if he was a Type D. Read this guide to know how to control your emotions.

1.3.9.2 Control your thoughts: What's even better than controlling emotions is preventing them from being triggered by learning how to control your thoughts. Read this guide to know how to control your thoughts.

1.3.9.3 Get over fear of rejection: In the Solid Self confidence program I said that fear of rejection is caused by low self esteem. Because the person fears that others

find out that he is less worthy than them he fears rejection. If you are a Type D personality then this is an essential step you must take to heal yourself

1.3.9.4 Learn to open up: This step was mentioned right after the last one because it can't happen before the previous one happens. You won't be able to open up to others before you get over your fear of rejection.

1.3.10 How is the treatment for Type D Personality?

Type D personality is a term used in medical psychology to refer to a person who has negative tendencies such as irritability, worry, gloomy, distressed among others. Further he suffers from social inhibitions such as being aloof and lacks self-confidence and assurance. The letter “D” in **Type D personality** stands for the tendency of being ‘distressed’. Ongoing research in the medical world has proved that **heart patients** with Type D personality are more prone to **cardiovascular problems**.

1.3.10.1 Type D personality can be combated effectively by using a range of therapeutic techniques. Regular therapy sessions involving detailed discussions about threatening issues can alleviate the symptoms to a great extent. The person can be helped to restructure his social life so as to promote healthy interaction with others and form meaningful relationships. Heart patients can be tested for **Type D personality** traits enabling early intervention in the form of behavioral and psychological counseling leading to improved treatment for cardiovascular issues.

1.310.2 Type D personality in the framework of four temperaments

While describing personalities in the **A, B, C, D framework**, a **Type D personality** describes a person who lacks creativity and motivation though he may be very dependable. He shuns change and is content to follow a set of rules and doing things repeatedly in the same manner. It may be a boon to have **Type D personalities** in the workplace as they enjoy having a structured and orderly routine at home and office. They are compassionate and supportive so hence other personality types turn to them for help.

Psychosomatic medicine is an **interdisciplinary** medical field studying the relationships of social, psychological, and behavioral factors on bodily processes and **quality of life** in humans and animals. The influence that the mind has over physical processes — including the manifestations of **disabilities** that are based on intellectual infirmities, rather than actual injuries or physical limitations — is manifested in treatment by phrases such as the **power of suggestion**, the use of "**positive thinking**" and concepts like "**mind over matter**"

The academic forebear of the modern field of **behavioral medicine** and a part of the practice of consultation-liaison psychiatry, psychosomatic medicine integrates interdisciplinary evaluation and management involving diverse specialties including **psychiatry, psychology, neurology, surgery, allergy, dermatology** and **psychoneuroimmunology**. Clinical situations where mental processes act as a major factor affecting medical outcomes are areas where psychosomatic medicine has competence

1.4 DEPRESSION

Depression is a state of low mood and aversion to activity that can have a negative effect on a person's thoughts, behavior, feelings, world view and physical well-being. Depressed people may feel **sad, anxious, empty, hopeless, worried, helpless, worthless, guilty, irritable, hurt or restless**. They may lose interest in activities that once were pleasurable, experience loss of appetite or overeating, have problems concentrating, remembering details, or making decisions and may contemplate or attempt **suicide**. **Insomnia, excessive sleeping, fatigue, loss of energy, or aches, pains or digestive problems** that are resistant to treatment may also be present.

Depressed mood is not necessarily a psychiatric disorder. It is a normal reaction to certain life events, a symptom of some medical conditions and a side effect of some medical treatments. Depressed mood is also a primary or associated feature of certain psychiatric syndromes such as clinical depression.

1.4.1 A History of Depression

The Ancient Greek physician **Hippocrates** described a syndrome of melancholia as a distinct disease with particular mental and physical symptoms; he characterized all "fears and despondencies, if they last a long time" as being symptomatic of the ailment. It was a similar but far broader concept than today's depression; prominence was given to a clustering of the symptoms of sadness, dejection, and despondency, and often fears, anger, delusions and obsessions were included.

The term **depression** itself was derived from the **Latin verb deprimere**, "to press down" From the 14th century, "to depress" meant to subjugate or to bring down in spirits. It was used in 1665 in English author Richard Baker's *Chronicle* to refer to someone having "a great depression of spirit", and by English author Samuel Johnson in a similar sense in 1753. The term also came in to use in physiology and economics. An early usage referring to a psychiatric symptom was by French psychiatrist Louis Delasiauve in 1856, and by the 1860s it was appearing in medical dictionaries to refer to a physiological and metaphorical lowering of emotional function. Since Aristotle, melancholia had been associated with men of learning and intellectual brilliance, a hazard of contemplation and creativity. The newer concept abandoned these associations and through the 19th century, became more associated with women.

Although *melancholia* remained the dominant diagnostic term, *depression* gained increasing currency in medical treatises and was a synonym by the end of the century; **German psychiatrist Emil Kraepelin** may have been the first to use it as the overarching term, referring to different kinds of melancholia as *depressive states*.

Sigmund Freud likened the state of melancholia to mourning in his 1917 paper *Mourning and Melancholia*. He theorized that objective loss, such as the loss of a valued relationship through death or a romantic break-up, results in subjective loss as well; the depressed individual has identified with the object of affection through an unconscious, narcissistic process called the *libidinal cathexis* of the ego. Such loss results in severe melancholic symptoms more profound than mourning; not only is the outside world viewed negatively but the ego itself is compromised. The patient's decline of self-perception is revealed in his belief of his own blame, inferiority, and unworthiness. He

also emphasized early life experiences as a predisposing factor. Meyer put forward a mixed social and biological framework emphasizing *reactions* in the context of an individual's life, and argued that the term *depression* should be used instead of *melancholia*. The first version of the DSM (DSM-I, 1952) contained *depressive reaction* and the DSM-II (1968) *depressive neurosis*, defined as an excessive reaction to internal conflict or an identifiable event, and also included a depressive type of manic-depressive psychosis within Major affective disorders.

In the mid-20th century, researchers theorized that depression was caused by a chemical imbalance in neurotransmitters in the brain, a theory based on observations made in the 1950s of the effects of reserpine and isoniazid in altering monoamine neurotransmitter levels and affecting depressive symptoms.

The term *Major depressive disorder* was introduced by a group of US clinicians in the mid-1970s as part of proposals for diagnostic criteria based on patterns of symptoms (called the "Research Diagnostic Criteria", building on earlier Feighner Criteria), and was incorporated in to the DSM-III in 1980. To maintain consistency the ICD-10 used the same criteria, with only minor alterations, but using the DSM diagnostic threshold to mark a *mild depressive episode*, adding higher threshold categories for moderate and severe episodes. The ancient idea of *melancholia* still survives in the notion of a melancholic subtype.

The new definitions of depression were widely accepted, albeit with some conflicting findings and views. There have been some continued empirically based arguments for a return to the diagnosis of melancholia. There has been some criticism of the expansion of coverage of the diagnosis, related to the development and promotion of antidepressants and the biological model since the late 1950s

1.4.2 Major depressive disorder (MDD)

Major depressive disorder (also known as **recurrent depressive disorder**, **clinical depression**, **major depression**, **unipolar depression**, or **unipolar disorder**) is a mental disorder characterized by an all-encompassing low mood accompanied by low self-esteem, and by loss of interest or pleasure in normally enjoyable activities. This cluster of symptoms (syndrome) was named, described and classified as one of the mood

disorders in the 1980 edition of the **American Psychiatric Association's diagnostic manual**. The term "depression" is ambiguous. It is often used to denote this syndrome but may refer to other mood disorders or to lower mood states lacking clinical significance. Major depressive disorder is a disabling condition that adversely affects a person's family, work or school life, sleeping and eating habits, and general health. In the United States, around 3.4% of people with major depression commit suicide, and up to 60% of people who commit suicide had depression or another mood disorder.

The diagnosis of major depressive disorder is based on the patient's self-reported experiences, behavior reported by relatives or friends, and a mental status examination. There is no laboratory test for major depression, although physicians generally request tests for physical conditions that may cause similar symptoms. The most common time of onset is between the ages of 20 and 30 years, with a later peak between 30 and 40 years.

Typically, patients are treated with antidepressant medication and, in many cases, also receive psychotherapy or counseling, although the effectiveness of medication for mild or moderate cases is questionable. Hospitalization may be necessary in cases with associated self-neglect or a significant risk of harm to self or others. A minority are treated with electroconvulsive therapy (ECT). The course of the disorder varies widely, from one episode lasting weeks to a lifelong disorder with recurrent major depressive episodes. Depressed individuals have shorter life expectancies than those without depression, in part because of greater susceptibility to medical illnesses and suicide. It is unclear whether or not medications affect the risk of suicide. Current and former patients may be stigmatized.

The understanding of the nature and causes of depression has evolved over the centuries, though this understanding is incomplete and has left many aspects of depression as the subject of discussion and research. Proposed causes include psychological, psycho-social, hereditary, evolutionary and biological factors. Certain types of long-term drug use can both cause and worsen depressive symptoms. Psychological treatments are based on theories of personality, interpersonal communication, and learning. Most biological theories focus on the monoamine

chemicals serotonin, nor epinephrine and dopamine, which are naturally present in the brain and assist communication between nerve cells.

1.4.3 Symptoms and signs

Major depression significantly affects a person's family and personal relationships, work or school life, sleeping and eating habits, and general health. Its impact on functioning and well-being has been compared to that of chronic medical conditions such as diabetes.

A person having a major depressive episode usually exhibits a very low mood, which pervades all aspects of life, and an inability to experience pleasure in activities that were formerly enjoyed. Depressed people may be preoccupied with, or ruminate over, thoughts and feelings of worthlessness, inappropriate guilt or regret, helplessness, hopelessness, and self-hatred. In severe cases, depressed people may have symptoms of psychosis. These symptoms include delusions or, less commonly, hallucinations, usually unpleasant. Other symptoms of depression include poor concentration and memory (especially in those with melancholic or psychotic features), withdrawal from social situations and activities, reduced sex drive, and thoughts of death or suicide. Insomnia is common among the depressed. In the typical pattern, a person wakes very early and cannot get back to sleep. Insomnia affects at least 80% of depressed people. Hypersomnia, or oversleeping, can also happen. Some antidepressants may also cause insomnia due to their stimulating effect.

A depressed person may report multiple physical symptoms such as fatigue, headaches, or digestive problems; physical complaints are the most common presenting problem in developing countries, according to the World Health Organization's criteria for depression. Appetite often decreases, with resulting weight loss, although increased appetite and weight gain occasionally occur. Family and friends may notice that the person's behavior is either agitated or lethargic. Older depressed people may have cognitive symptoms of recent onset, such as forgetfulness, and a more noticeable slowing of movements. Depression often coexists with physical disorders common among the elderly, such as stroke, other cardiovascular diseases, Parkinson's disease, and chronic obstructive pulmonary disease.

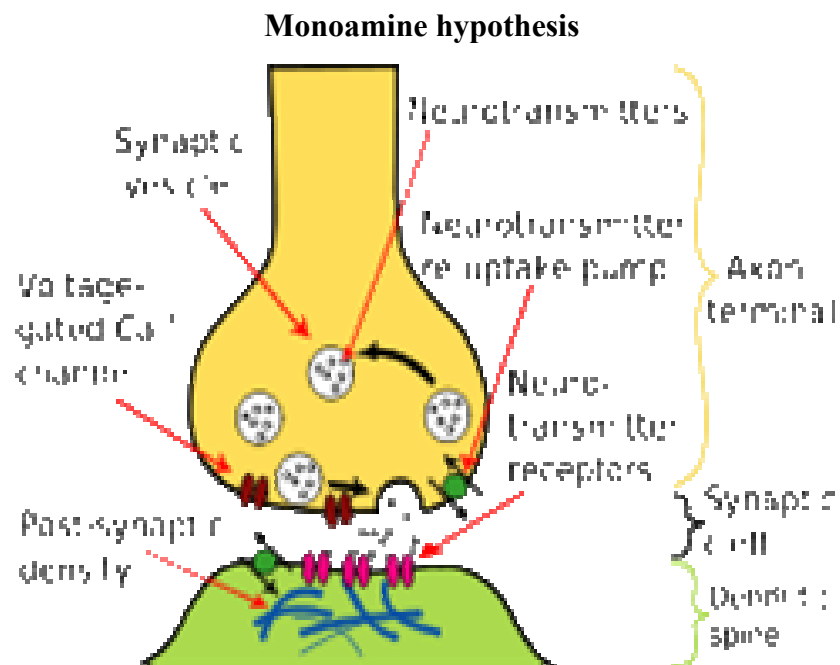
Depressed children may often display an irritable mood rather than a depressed mood, and show varying symptoms depending on age and situation. Most lose interest in school and show a decline in academic performance. They may be described as clingy, demanding, dependent, or insecure. Diagnosis may be delayed or missed when symptoms are interpreted as normal moodiness. Depression may also coexist with attention-deficit hyperactivity disorder (ADHD), complicating the diagnosis and treatment of both.

1.4.4 Causes of Depression

The bio psychosocial model proposes that biological, psychological, and social factors all play a role in causing depression. The diathesis–stress model specifies that depression results when a preexisting vulnerability, or diathesis, is activated by stressful life events. The preexisting vulnerability can be either genetic, implying an interaction between nature and nurture, or schematic, resulting from views of the world learned in childhood.

1.4.5 Biological

A picture for monoamine hypothesis defines for neurotransmitters. So first we see the Biology of depression.



Of approx. 30 neurotransmitters that have been identified, researchers have discovered associations between clinical depression and the function of three major neurochemicals. These substances are serotonin, nor epinephrine, and dopamine. Antidepressants influence the overall balance of these three neurotransmitters within structures of the brain that regulate emotion, reactions to stress, and the physical drives of sleep, appetite, and sexuality.

Most antidepressant medications increase the levels of one or more of the monoamines the neurotransmitters serotonin, nor epinephrine and dopamine in the synaptic cleft between neurons in the brain. Some medications affect the monoamine receptors directly.

Serotonin is hypothesized to regulate other neurotransmitter systems; decreased serotonin activity may allow these systems to act in unusual and erratic ways. According to this "permissive hypothesis", depression arises when low serotonin levels promote low levels of nor epinephrine, another monoamine neurotransmitter. Some antidepressants enhance the levels of nor epinephrine directly, whereas others raise the levels of dopamine, a third monoamine neurotransmitter. These observations gave rise to the monoamine hypothesis of depression. In its contemporary formulation, the monoamine hypothesis postulates that a deficiency of certain neurotransmitters is responsible for the corresponding features of depression: "Nor epinephrine may be related to alertness and energy as well as anxiety, attention, and interest in life; [lack of] serotonin to anxiety, obsessions, and compulsions; and dopamine to attention, motivation, pleasure, and reward, as well as interest in life." The proponents of this theory recommend the choice of an antidepressant with mechanism of action that impacts the most prominent symptoms. Anxious and irritable patients should be treated with SSRIs or nor epinephrine reuptake inhibitors, and those experiencing a loss of energy and enjoyment of life with nor epinephrine- and dopamine-enhancing drugs.

1.4.5.1 Psychological

Various aspects of personality and its development appear to be integral to the occurrence and persistence of depression, with negative emotionality as a common precursor. Although depressive episodes are strongly correlated with adverse events, a

person's characteristic style of coping may be correlated with his or her resilience. In addition, low self-esteem and self-defeating or distorted thinking are related to depression. Depression is less likely to occur, as well as quicker to remit, among those who are religious. It is not always clear which factors are causes and which are effects of depression; however, depressed persons who are able to reflect upon and challenge their thinking patterns often show improved mood and self-esteem.

American psychiatrist **Aaron T. Beck**, following on from the earlier work of **George Kelly** and **Albert Ellis**, developed what is now known as a cognitive model of depression in the early 1960s. He proposed that three concepts underlie depression: a triad of negative thoughts composed of cognitive errors about oneself, one's world, and one's future; recurrent patterns of depressive **thinking**, or **schemas**; and distorted information processing. From these principles, he developed the structured technique of **cognitive behavioral therapy** (CBT). According to American psychologist **Martin Seligman**, depression in humans is similar to **learned helplessness** in laboratory animals, which remain in unpleasant situations when they are able to escape, but do not because they initially learned they had no control

Attachment theory, which was developed by English psychiatrist **John Bowlby** in the **1960s**, predicts a relationship between depressive disorder in adulthood and the quality of the earlier bond between the infant and the adult caregiver. In particular, it is thought that "the experiences of early loss, separation and rejection by the parent or caregiver (conveying the message that the child is unlovable) may all lead to insecure internal working models ... Internal cognitive representations of the self as unlovable and of attachment figures as unloving [or] untrustworthy would be consistent with parts of Beck's cognitive triad". While a wide variety of studies has upheld the basic tenets of attachment theory, research has been inconclusive as to whether self-reported early attachment and later depression are demonstrably related.

Depressed individuals often blame themselves for negative events, and, as shown in a 1993 study of hospitalized adolescents with self-reported depression, those who blame themselves for negative occurrences may not take credit for positive outcomes. This tendency is characteristic of a depressive attribution, or pessimistic explanatory style. According to **Albert Bandura**, a Canadian social psychologist

associated with social cognitive theory, depressed individuals have negative beliefs about themselves, based on experiences of failure, observing the failure of social models, a lack of social persuasion that they can succeed, and their own somatic and emotional states including tension and stress. These influences may result in a negative self-concept and a lack of self-efficacy; that is, they do not believe they can influence events or achieve personal goals.

An examination of depression in women indicates that vulnerability factors—such as early maternal loss, lack of a confiding relationship, responsibility for the care of several young children at home, and unemployment—can interact with life stressors to increase the risk of depression. For older adults, the factors are often health problems, changes in relationships with a spouse or adult children due to the transition to a caregiving or care-needing role, the death of a significant other, or a change in the availability or quality of social relationships with older friends because of their own health-related life changes.

The understanding of depression has also received contributions from the psychoanalytic and humanistic branches of psychology. From the classical psychoanalytic perspective of Austrian psychiatrist **Sigmund Freud**, depression, or *melancholia*, may be related to interpersonal loss and early life experiences. Existential therapists have connected depression to the lack of both meaning in the present and a vision of the future. The founder of humanistic psychology, American psychologist **Abraham Maslow**, suggested that depression could arise when people are unable to attain their needs or to self-actualize (to realize their full potential).

1.4.5.2 Social

Poverty and social isolation are associated with increased risk of mental health problems in general. Child abuse (**physical, emotional, sexual, or neglect**) is also associated with increased risk of developing depressive disorders later in life. Such a link has good face validity given that it is during the years of development that a child is learning how to become a social being. Abuse of the child by the caregiver is bound to distort the developing personality and create a much greater risk for depression and many other debilitating mental and emotional states. Disturbances in family functioning, such

as parental (particularly maternal) depression, severe marital conflict or divorce, death of a parent, or other disturbances in parenting are additional risk factors. In adulthood, stressful life events are strongly associated with the onset of major depressive episodes. In this context, life events connected to social rejection appear to be particularly related to depression. Evidence that a first episode of depression is more likely to be immediately preceded by stressful life events than are recurrent ones is consistent with the hypothesis that people may become increasingly sensitized to life stress over successive recurrences of depression.

The relationship between stressful life events and social support has been a matter of some debate; the lack of social support may increase the likelihood that life stress will lead to depression, or the absence of social support may constitute a form of strain that leads to depression directly. There is evidence that neighborhood social disorder, for example, due to crime or illicit drugs, is a risk factor, and that a high neighborhood socioeconomic status, with better amenities, is a protective factor. Adverse conditions at work, particularly demanding jobs with little scope for decision-making, are associated with depression, although diversity and confounding factors make it difficult to confirm that the relationship is causal.

Depression can be caused by prejudice. This can occur when people hold negative self-stereotypes about them. This "deprejudice" can be related to a group membership (e.g., Me-Gay-Bad) or not (Me-Bad). If someone has prejudicial beliefs about a stigmatized group and then becomes a member of that group, they may internalize their prejudice and develop depression. For example, a boy growing up in the United States may learn the negative stereotype that gay men are immoral. When he grows up and realizes he is gay, he may direct this prejudice inward on himself and become depressed. People may also show prejudice internalization through self-stereotyping because of negative childhood experiences such as verbal and physical abuse.

1.4.5.3 Major depressive episode

A major depressive episode is characterized by the presence of a severely depressed mood that persists for at least two weeks. Episodes may be isolated or

recurrent and are categorized as mild (few symptoms in excess of minimum criteria), moderate, or severe (marked impact on social or occupational functioning). An episode with psychotic features — commonly referred to as *psychotic depression* — is automatically rated as severe. If the patient has had an episode of mania or markedly elevated mood, a diagnosis of bipolar disorder is made instead. Depression without mania is sometimes referred to as *unipolar* because the mood remains at one emotional state or "pole".

DSM-IV-TR excludes cases where the symptoms are a result of bereavement, although it is possible for normal bereavement to evolve into a depressive episode if the mood persists and the characteristic features of a major depressive episode develop. The criteria have been criticized because they do not take into account any other aspects of the personal and social context in which depression can occur. In addition, some studies have found little empirical support for the DSM-IV cut-off criteria, indicating they are a diagnostic convention imposed on a continuum of depressive symptoms of varying severity and duration: Excluded are a range of related diagnoses, including dysthymia, which involves a chronic but milder mood disturbance; recurrent brief depression, consisting of briefer depressive episodes; minor depressive disorder, whereby only some of the symptoms of major depression are present; and adjustment disorder with depressed mood, which denotes low mood resulting from a psychological response to an identifiable event or stressor.

1.4.6 Subtypes for Depression

The DSM-IV-TR recognizes five further subtypes of MDD, called *specifies*, in addition to noting the length, severity and presence of psychotic features:

1.4.6.1 Melancholic depression is characterized by a loss of pleasure in most or all activities, a failure of reactivity to pleasurable stimuli, a quality of depressed mood more pronounced than that of grief or loss, a worsening of symptoms in the morning hours, early-morning waking, psychomotor retardation, excessive weight loss (not to be confused with anorexia nervosa), or excessive guilt.

1.4.6.2 Atypical depression is characterized by mood reactivity (paradoxical anhedonia) and positivity, significant weight gain or increased appetite (comfort

eating), excessive sleep or sleepiness (hypersomnia), a sensation of heaviness in limbs known as leaden paralysis, and significant social impairment as a consequence of hypersensitivity to perceived interpersonal rejection.

1.4.6.3 Catatonic depression is a rare and severe form of major depression involving disturbances of motor behavior and other symptoms. Here the person is mute and almost stuporous, and either remains immobile or exhibits purposeless or even bizarre movements. Catatonic symptoms also occur in schizophrenia or in manic episodes, or may be caused by neuroleptic malignant syndrome.

1.4.6.4 Postpartum depression, or mental and behavioural disorders associated with the puerperium, not elsewhere classified, refers to the intense, sustained and sometimes disabling depression experienced by women after giving birth. Postpartum depression has an incidence rate of 10–15% among new mothers. The DSM-IV mandates that, in order to qualify as postpartum depression, onset occur within one month of delivery. It has been said that postpartum depression can last as long as three months.

1.4.6.5 Seasonal affective disorder (SAD) is a form of depression in which depressive episodes come on in the autumn or winter, and resolve in spring. The diagnosis is made if at least two episodes have occurred in colder months with none at other times, over a two-year period or longer.

1.4.7 Differential diagnoses

To confer major depressive disorder as the most likely diagnosis, other potential diagnoses must be considered, including dysthymia, adjustment disorder with depressed mood or bipolar disorder. Dysthymia is a chronic, milder mood disturbance in which a person reports a low mood almost daily over a span of at least two years. The symptoms are not as severe as those for major depression, although people with dysthymia are vulnerable to secondary episodes of major depression (sometimes referred to as *double depression*). Adjustment disorder with depressed mood is a mood disturbance appearing as a psychological response to an identifiable event or stressor, in which the resulting emotional or behavioral symptoms are significant but do not meet the criteria for a major depressive episode. Bipolar disorder, also known as *manic–depressive disorder*, is a

condition in which depressive phases alternate with periods of mania or hypomania. Although depression is currently categorized as a separate disorder, there is ongoing debate because individuals diagnosed with major depression often experience some hypomanic symptoms, indicating a mood disorder continuum.

Other disorders need to be ruled out before diagnosing major depressive disorder. They include depressions due to physical illness, medications, and substance abuse. Depression due to physical illness is diagnosed as a mood disorder due to a general medical condition. This condition is determined based on history, laboratory findings, or physical examination. When the depression is caused by a substance abused including a drug of abuse, a medication, or exposure to a toxin, it is then diagnosed as a substance-induced mood disorder. In such cases, a substance is judged to be etiologically related to the mood disturbance.

1.4.8 Prevention for Depression

Behavioral interventions, such as interpersonal therapy, are effective at preventing new onset depression. Because such interventions appear to be most effective when delivered to individuals or small groups, it has been suggested that they may be able to reach their large target audience most efficiently through the Internet. However, an earlier meta-analysis found preventive programs with a competence-enhancing component to be superior to behaviorally oriented programs overall, and found behavioral programs to be particularly unhelpful for older people, for whom social support programs were uniquely beneficial. In addition, the programs that best prevented depression comprised more than eight sessions, each lasting between 60 and 90 minutes, were provided by a combination of lay and professional workers, had a high-quality research design, reported attrition rates, and had a well-defined intervention. The "Coping with Depression" course (CWD) is claimed to be the most successful of psycho educational interventions for the treatment and prevention of depression (both for its adaptability to various populations and its results), with a risk reduction of 38% in major depression and an efficacy as a treatment comparing favorably to other psychotherapies.

1.4.9 Management for Depression

The three most common treatments for depression are **psychotherapy, medication, and electroconvulsive therapy**. Psychotherapy is the treatment of choice for people under 18, while electroconvulsive therapy is used only as a last resort. Care is usually given on an outpatient basis, whereas treatment in an inpatient unit is considered if there is a significant risk to self or others.

Treatment options are much more limited in developing countries, where access to mental health staff, medication, and psychotherapy is often difficult. Development of mental health services is minimal in many countries; depression is viewed as a phenomenon of the developed world despite evidence to the contrary, and not as an inherently life-threatening condition. Physical exercise is recommended for management of mild depression, but it has only a moderate, statistically insignificant effect on symptoms in most cases of major depressive disorder.

1.4.10 Psychotherapy

Psychotherapy can be delivered, to individuals, groups, or families by mental health professionals, including psychotherapists, psychiatrists, psychologists, clinical social workers, counselors, and suitably trained psychiatric nurses. With more complex and chronic forms of depression, a combination of medication and psychotherapy may be used.

1.4.10.1 Cognitive behavioral therapy (CBT) currently has the most research evidence for the treatment of depression in children and adolescents, and CBT and interpersonal psychotherapy (IPT) are preferred therapies for adolescent depression. In people under 18, according to the National Institute for Health and Clinical Excellence, medication should be offered only in conjunction with a psychological therapy, such as CBT, interpersonal therapy, or family therapy.

Psychotherapy has been shown to be effective in older people. Successful psychotherapy appears to reduce the recurrence of depression even after it has been terminated or replaced by occasional booster sessions.

The most-studied form of psychotherapy for depression is CBT, which teaches clients to challenge self-defeating, but enduring ways of thinking (cognitions) and change counter-productive behaviors. Research beginning in the mid-1990s suggested that CBT could perform as well or better than antidepressants in patients with moderate to severe depression. CBT may be effective in depressed adolescents, although its effects on severe episodes are not definitively known. Several variables predict success for cognitive behavioral therapy in adolescents: higher levels of rational thoughts, less hopelessness, fewer negative thoughts, and fewer cognitive distortions. CBT is particularly beneficial in preventing relapse. Several variants of cognitive behavior therapy have been used in depressed patients, the most notable being rational emotive behavior therapy and more recently mindfulness-based cognitive therapy.

Psychoanalysis is a school of thought, founded by **Sigmund Freud**, which emphasizes the resolution of unconscious mental conflicts. Psychoanalytic techniques are used by some practitioners to treat clients presenting with major depression. A more widely practiced, eclectic technique, called psychodynamic psychotherapy, is loosely based on psychoanalysis and has an additional social and interpersonal focus. In a meta-analysis of three controlled trials of Short Psychodynamic Supportive Psychotherapy, this modification was found to be as effective as medication for mild to moderate depression.

1.4.10.2 Logo therapy, a form of existential psychotherapy developed by Austrian psychiatrist Viktor Frankl, addresses the filling of an "existential vacuum" associated with feelings of futility and meaninglessness. It is posited that this type of psychotherapy may be useful for depression in older adolescents.

1.4.11 Anti-Depressants

The effectiveness of antidepressants is none to minimal in those with mild or moderate depression but significant in those with very severe disease. The effects of antidepressants are somewhat superior to those of psychotherapy, especially in cases of chronic major depression, although in short-term trials more patients — especially those with less serious forms of depression — cease medication than cease psychotherapy,

most likely due to adverse effects from the medication and to patients' preferences for psychological therapies over pharmacological treatments.

To find the most effective antidepressant medication with minimal side-effects, the dosages can be adjusted, and if necessary, combinations of different classes of antidepressants can be tried. Response rates to the first antidepressant administered range from 50–75%, and it can take at least six to eight weeks from the start of medication to remission, when the patient is back to their normal self. Antidepressant medication treatment is usually continued for 16 to 20 weeks after remission, to minimize the chance of recurrence, and even up to one year of continuation is recommended. People with chronic depression may need to take medication indefinitely to avoid relapse.

1.4.11.1 Selective serotonin reuptake inhibitors:

(SSRIs) are the primary medications prescribed owing to their relatively mild side-effects, and because they are less toxic in overdose than other antidepressants. Patients who do not respond to one SSRI can be switched to another antidepressant, and these results in improvement in almost 50% of cases. Another option is to switch to the atypical antidepressant bupropion. Venlafaxine, an antidepressant with a different mechanism of action, may be modestly more effective than SSRIs. However, venlafaxine is not recommended in the UK as a first-line treatment because of evidence suggesting its risks may outweigh benefits, and it is specifically discouraged in children and adolescents. For adolescent depression, fluoxetine and escitalopram are the two recommended choices. Antidepressants have not been found to be beneficial in children. There is also insufficient evidence to determine effectiveness in those with depression complicated by dementia. Any antidepressant can cause low serum sodium levels (also called hyponatremia) nevertheless, it has been reported more often with SSRIs. It is not uncommon for SSRIs to cause or worsen insomnia; the sedating antidepressant mirtazapine can be used in such cases.

Irreversible monoamine oxidase inhibitors, an older class of antidepressants, has been plagued by potentially life-threatening dietary and drug interactions. They

are still used only rarely, although newer and better tolerated agents of this class have been developed. The safety profile is different with reversible monoamine oxidase inhibitors such as moclobemide where the risk of serious dietary interactions is negligible and dietary restrictions are less strict.

1.4.11.2 The terms "**refractory depression**" and "**treatment-resistant depression**" are used to describe cases that do not respond to adequate courses of at least two antidepressants. In many major studies, only about 35% of patients respond well to medical treatment. It may be difficult for a doctor to decide when someone has treatment-resistant depression or whether the problem is due to coexisting disorders, which are common among patients with major depression.

A team of psychologists from multiple American universities found that antidepressant drugs hardly have better effects than a **placebo** in cases of mild or moderate depression. The study focused on paroxetine and imipramine.

For children, adolescents, and probably young adults between 18 and 24 years old, there is a higher risk of both suicidal ideations and suicidal behavior in those treated with SSRIs. For adults, it is unclear whether or not SSRIs affect the risk of suicidality. One review found no connection another an increased risk and a third no risk in those 25–65 years old and a decrease risk in those more than 65. Epidemiological data has found that the widespread use of antidepressants in the new "SSRI-era" is associated with a significant decline in suicide rates in most countries with traditionally high baseline suicide rates. The causality of the relationship is inconclusive. A **black box warning** was introduced in the United States in 2007 on SSRI and other antidepressant medications due to increased risk of suicide in patients younger than 24 years old. Similar precautionary notice revisions were implemented by the Japanese Ministry of Health.

1.4.11.3 There is some evidence that fish oil supplements containing high levels of eicosapentaenoic acid to docosaxaenoic acid may be effective in major depression, but other meta-analysis of the research conclude that positive effects

may be due to publication bias. There is some preliminary evidence that **COX-2 inhibitors** have a beneficial effect on major depression.

1.4.12 Electroconvulsive therapy

Electroconvulsive therapy (ECT) is a procedure whereby pulses of electricity are sent through the brain via two electrodes, usually one on each temple, to induce a seizure while the patient is under a brief period of general anesthesia. Hospital psychiatrists may recommend ECT for cases of severe major depression that have not responded to antidepressant medication or, less often, psychotherapy or supportive interventions. ECT can have a quicker effect than antidepressant therapy and thus may be the treatment of choice in emergencies such as catatonic depression where the patient has stopped eating and drinking, or where a patient is severely suicidal. ECT is probably more effective than pharmacotherapy for depression in the immediate short-term, although a landmark community-based study found much lower remission rates in routine practice. When ECT is used on its own, the relapse rate within the first six months is very high; early studies put the rate at around 50%, while a more recent controlled trial found rates of 84% even with **placebos**. The early relapse rate may be reduced by the use of psychiatric medications or further ECT (although the latter is not recommended by some authorities) but remains high. Common initial **adverse effects** from ECT include **short and long-term memory loss, disorientation and headache**. Although memory disturbance after ECT usually resolves within one month, ECT remains a controversial treatment, and debate on its efficacy and safety continues.

1.4.13 Prognosis

Major depressive episodes often resolve over time whether or not they are treated. Outpatients on a waiting list show a 10–15% reduction in symptoms within a few months, with approximately 20% no longer meeting the full criteria for a depressive disorder. The median duration of an episode has been estimated to be 23 weeks, with the highest rate of recovery in the first three months.

Studies have shown that 80% of those suffering from their first major depressive episode will suffer from at least 1 more during their life, with a lifetime average of 4 episodes. Other general population studies indicate around half those who

have an episode (whether treated or not) recover and remain well, while the other half will have at least one more, and around 15% of those experience chronic recurrence. Studies recruiting from selective inpatient sources suggest lower recovery and **higher chronicity**, while studies of mostly outpatients show that nearly all recover, with a median episode duration of 11 months. Around 90% of those with severe or psychotic depression, most of whom also meet criteria for other mental disorders, experience recurrence.

Recurrence is more likely if symptoms have not fully resolved with treatment. Current guidelines recommend continuing antidepressants for four to six months after remission to prevent relapse. Evidence from many randomized controlled trials indicates continuing antidepressant medications after recovery can reduce the chance of relapse by 70% (41% on placebo vs. 18% on antidepressant). The preventive effect probably lasts for at least the first 36 months of use.

Those people who experience repeated episodes of depression require ongoing treatment in order to prevent more severe, long-term depression. In some cases, people need to take medications for long periods of time or for the rest of their lives.

Cases when outcome is poor are associated with inappropriate treatment, severe initial symptoms that may include psychosis, early age of onset, more previous episodes, incomplete recovery after 1 year, pre-existing severe mental or medical disorder, and family dysfunction as well.

Depressed individuals have a shorter life expectancy than those without depression, in part because depressed patients are at risk of dying by suicide. However, they also have a higher rate of dying from other causes, being more susceptible to medical conditions such as heart disease. Up to 60% of people who commit suicide have a mood disorder such as major depression, and the risk is especially high if a person has a marked sense of hopelessness or has both depression and **borderline personality disorder**. The lifetime risk of suicide associated with a diagnosis of major depression in the US is estimated at 3.4%, which averages two highly disparate figures of almost 7% for men and 1% for women (although suicide attempts are more frequent in women). The

estimate is substantially lower than a previously accepted figure of 15%, which had been derived from older studies of hospitalized patients.

Depression is often associated with unemployment and poverty. Major depression is currently the leading cause of **disease burden** in North America and other high-income countries, and the fourth-leading cause worldwide. In the year 2030, it is predicted to be the second-leading cause of disease burden worldwide after HIV, according to the World Health Organization. Delay or failure in seeking treatment after relapse, and the failure of health professionals to provide treatment, are two barriers to reducing disability.

1.4.14 Diagnosis for Depression (Clinical assessment)

A diagnostic assessment may be conducted by a suitably trained general practitioner, or by a psychiatrist or psychologist, who records the person's current circumstances, biographical history, current symptoms and family history. The broad clinical aim is to formulate the relevant biological, psychological and social factors that may be impacting on the individual's mood. The assessor may also discuss the person's current ways of regulating their mood (healthy or otherwise) such as alcohol and drug use. The assessment also includes a mental state examination, which is an assessment of the person's current mood and thought content, in particular the presence of themes of hopelessness or pessimism, self-harm or suicide, and an absence of positive thoughts or plans. Specialist mental health services are rare in rural areas, and thus diagnosis and management is left largely to primary-care clinicians. This issue is even more marked in developing countries. The score on a rating scale alone is insufficient to diagnose depression to the satisfaction of the DSM or ICD, but it provides an indication of the severity of symptoms for a time period, so a person who scores above a given cut-off point can be more thoroughly evaluated for a depressive disorder diagnosis. Several rating scales are used for this purpose. Screening programs have been advocated to improve detection of depression, but there is evidence that they do not improve detection rates, treatment, or outcome.

Primary care physicians and other non-psychiatrist physicians have difficulty diagnosing depression, in part because they are trained to recognize and treat physical symptoms,

and depression can cause a myriad of physical (psychosomatic) symptoms. Non-psychiatrists miss two-thirds of cases and unnecessarily treat other patients.

Before diagnosing a major depressive disorder, in general a doctor performs a medical examination and selected investigations to rule out other causes of symptoms. These include blood tests measuring TSH and **thyroxin** to exclude hypothyroidism; basic electrolytes and serum calcium to rule out a metabolic disturbance; and a full blood count including ESR to rule out a systemic infection or chronic disease. Adverse affective reactions to medications or alcohol misuse are often ruled out, as well. Testosterone levels may be evaluated to diagnose hypogonadism, a cause of depression in men.

Subjective cognitive complaints appear in older depressed people, but they can also be indicative of the onset of a dementing disorder, such as Alzheimer's disease. Cognitive testing and brain imaging can help distinguish depression from dementia. A CT scan can exclude brain pathology in those with psychotic, rapid-onset or otherwise unusual symptoms. No biological tests confirm major depression. In general, investigations are not repeated for a subsequent episode unless there is a medical indication.

Biomarkers of depression have been sought to provide an objective method of diagnosis. There are several potential biomarkers, including Brain-Derived Neurotrophic Factor and various functional MRI techniques. One study developed a decision tree model of interpreting a series of fMRI scans taken during various activities. In their subjects, the authors of that study were able to achieve a sensitivity of 80% and a specificity of 87%, corresponding to a negative predictive value of 98% and a positive predictive value of 32% (positive and negative likelihood ratios were 6.15, 0.23, respectively). However, much more research is needed before these tests could be used clinically.

1.4.14.1 DSM-IV-TR and ICD-10 criteria

The most widely used criteria for diagnosing depressive conditions are found in the American Psychiatric Association's revised fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR), and the World Health Organization's *International Statistical Classification of Diseases and*

Related Health Problems (ICD-10), which uses the name *recurrent depressive disorder*. The latter system is typically used in European countries, while the former is used in the US and many other non-European nations, and the authors of both have worked towards conforming one to the other.

Both DSM-IV-TR and ICD-10 mark out typical (main) depressive symptoms. ICD-10 defines three typical depressive symptoms (depressed mood, anhedonia, and reduced energy), two of which should be present to determine depressive disorder diagnosis. According to DSM-IV-TR, there are two main depressive symptoms—depressed mood and anhedonia. At least one of these must be present to make a diagnosis of major depressive episode.

Major depressive disorder is classified as a mood disorder in DSM-IV-TR. The diagnosis hinges on the presence of single or recurrent major depressive episodes. Further qualifiers are used to classify both the episode itself and the course of the disorder. The category Depressive Disorder Not Otherwise Specified is diagnosed if the depressive episode's manifestation does not meet the criteria for a major depressive episode. The ICD-10 system does not use the term *major depressive disorder*, but lists very similar criteria for the diagnosis of a depressive episode (mild, moderate or severe); the term *recurrent* may be added if there have been multiple episodes without mania.

1.5 Ego strength:

In **Sigmund Freud's** psychoanalytic theory of personality, ego strength is the ability of the ego to effectively deal with the demands of the id, the superego and reality. Those with little ego strength may feel torn between these competing demands, while those with too much ego strength can become too unyielding and rigid. Ego strength helps us maintain emotional stability and cope with internal and external stress.

According to Sigmund Freud, personality is composed of **three elements: the id, the ego and the super-ego**. The id is composed of all the primal urges and desires and is the only part of personality present at birth. The super-ego is the part of personality that is composed of the internalized standards and rules that we acquire from our parents

and from society. The ego is the part of personality that mediates between the demands of reality, the urges of the id and the idealistic standards of the super-ego.

In situations involving psychological disorders, ego strength is often used to describe a patient's ability to maintain their identity and sense of self in the face of pain, distress and conflict. Researchers have also suggested that acquiring new defenses and coping mechanisms is an important component of ego strength.

Ego-strength" is a much used and useful term, though the concept is not easy to define. According to **Wolberg (1977)** it connotes the positive personality assets that will enable the individual to overcome his anxieties, to yield secondary gains of his illness, and to acquire new, more adequate defenses." Ego-strength is also the patient's capacity to hold on to his own identity despite psychic pain, distress, turmoil and conflict between opposing internal forces as well as the demands of reality (Brown et al., 1979). The patient needs to have sufficient ego-strength to be able to give up his neurotic defences when confronted with them in BDP. Conversely, each successful challenge or confrontation of a transference reaction increases the ego-strength.

1.5.1 High Ego Strength

An individual with strong ego-strength approaches challenges with a sense that he or she can overcome the problem and even grow as a result. By having strong ego-strength, the individual feels that he or she can cope with the problem and find new ways of dealing with struggles. These people can handle whatever life throws at them without losing their sense of self.

1.5.2 Low Ego Strength

On the other hand, those with weak ego-strength view challenges as something to avoid. In many cases, reality can seem too overwhelming to deal with. These individuals struggle to cope in the face of problems, and may try to avoid reality through wishful thinking, substance use and fantasies.

1.5.3 Why a healthy Ego is essential to health and happiness?

A healthy ego gives you the needed ego-strength to navigate challenging moments, and emotions of vulnerability rooted in fear and anxiety, with ease and resilience – which is an essential skill in the formation of healthy emotional intimacy.

Unlike weak ego-strength, you are less likely to personalize what others say or do, and more likely to accept yourself and others as human beings who have a right to make mistakes, and to grow their own problem solving abilities in the process – by making and learning from mistakes. It's very basic to how healthy human beings learn.

Many of the major psychological theorists associated a healthy ego and ego-strength with a healthy exercise of personal power, one's freedom and ability to choose to act in responsible ways with regard to self and other. Here's what a few of them had to say on the subject:

1.5.3.1 Alfred Adler (1870-1937)

Alfred Adler one of the first to associate the striving for personal power, or ego-strength, as a universal drive that is not only normal, but a healthy human need. He believed persons are social beings with universal needs to belong, to exercise personal power, to find value in their relationships, and to contribute to the betterment of humankind. In a 1927 fourth edition of *The Neurotic Character*, he described an unhealthy lust for 'neurotic power' over others, as characterized by self-absorption and the use of aggression to dominate others. Adler believed this was rooted in harsh parenting practices that unwittingly thwarted a child's needs for healthy power. He regarded parental love and involvement as the most important elements to healthy human development.

1.5.3.2 Rollo May (1909 – 1994)

Rollo May define power as an interpersonal process of growing a sense of self as free to act within socially responsible limits. He viewed a low level of anxiety as essential to growth, and 'neurotic anxiety' as product of not facing 'normal anxiety' in life. May identified five types of power, each in terms of its highest intention: (1) *integrative power*, which seeks to attain win-win

interactions with others; (2) *nutrient power*, which focuses on taking care of other human beings; (4) *competitive power*, which consists of choices to use either fair or unfair means of winning; (4) *manipulative power*, which seeks to get others to do something against their will or without their knowledge; and (5) *exploitive power*, which aims to exploit others destructively for own purposes and gain.

1.5.3.3 Abraham Maslow (1908 – 1970)

Abraham Maslow described a healthy need for power as part of the universal human need for self-esteem. He believed that human beings were intrinsically motivated to find meaning in life by fulfilling five *intrinsic needs* as an integral aspect of their personal and relational growth. **Maslow developed a Hierarchy of Needs** that separated the 5 needs into two levels: (1) one *high level need* for self-actualization; and (2) *four lower basic needs* for physiological sustenance, emotional safety, belonging and self-esteem. He also identified two types of esteem needs that develop ego-strength; one is a healthy striving to experience a sense of self as competent and capable of mastering tasks, and the other a seeking to experience self as capable of gaining positive recognition from others. In a radical departure from conventional psychological research methods, Maslow emphasized the importance of focusing on positive qualities, and was the first to study person's *self-actualized* persons on the basis of their contributions to society, such as Albert Einstein, Eleanor Roosevelt, William James, Jane Adams, Abraham Lincoln, among others.

1.5.3.4 Carl Jung (1875 – 1961)

Carl Jung believed the primary goal, universally, of every human being was to come to a full realization of an ego self, a concept he termed *self-realization* that is clearly similar to Maslow's *self-actualization*. The self-realized person is actually not selfish, and rather oriented to seeking to find meaning in contribution. To Jung, the self represents an inner transcending power of all *opposites*, an inner stretching of self to realize an essential balance of energies within, one that is *neither and both*: male and female; conscious and

unconscious; good and shadow; individual and connected to the universe; and so on. Jung viewed the ability to balance opposites as critical to ego-strength, as they produce necessary friction, and thus movement toward growth and change. Without opposition, there is no energy to act, and risk of stagnation.

1.5.4 How to Strengthen Your Ego-Strength

The following are offered as beginning guidelines processes which we have incorporated in our basic Meta-States training, Accessing Personal Genius. If you have experienced that training, then you know these processes and can keep refreshing the meta-stating patterns until you not only strengthen your ego-strength, but actually super-charge it. This will empower you to face life on life's terms and to develop a sense of self-efficacy in the face of changing times. It will enrich your powers of optimism, resilience, and creativity.

1.5.4.1 Acceptance

First and foremost, we strengthen our ego-strength by meta-stating ourselves with acceptance. Access the state of acceptance and apply that feeling to your "self." Think of something small and simple that you simply accept. You could get yourself worked up about it, even furious and frustrated, but you have learned to just go along and accept it. It could be something like the rain, the traffic, changing the baby's diaper, taking out the garbage, etc. Think small and simple.

What is that like when you are accepting something? Feel that and reflexively turn that feeling back onto yourself—your sense of self, life, the cards that life has dealt you, when and where you were born, your aptitudes and lack of aptitudes, etc. As you do this, you'll experience a quiet and tender feeling, one that may not necessarily feel very positive. It's just a feeling of welcoming something into your life but not with any particular thrill or liking. To do that is to experience appreciation. Yet acceptance also is not resignation or condoning. Acceptance is just welcoming something into your world without any negative fanfare.

In this, acceptance can be a truly magical state. In it, we simply acknowledge the world for what it is regardless of our likes or dislikes. We simply acknowledge the constraints that exist and that we have to deal with.

1.5.4.2 Adjusting Expectancies

Second, look at your self-expectancies and expectancies of others, the world, work, etc. and adjust them so that you have a fairly accurate map about what is, how things work, and what you can legitimately expect. What have you mapped about yourself, people, relationships, fairness, life, etc.? Every unrealistic expectation sets us up for a cognitive and semantic jar and for a possible disappointment. If it is unrealistic, then we are trying to navigate and work in a world that is ultimately an illusion of the mind. A more effective approach is to set out to create a good and useful map that will enable us to go and experience what we desire.

This explains how learning and developing greater understandings about things increases ego-strength. Knowing what is, how things work, the rules and principles of people, relationships, careers, etc. gives us the ability to adjust our thinking-and-emoting to such and this increases our ego-strength. It takes the surprise and shock out of being caught up short. It raises our level of frustration tolerance.

1.5.4.3 Stepping into Our Power Zone

Weak and strong ego-strength is related to our sense of personal power or the lack thereof. We increase ego-strength when we accept our personal powers or responses of thinking, emoting, speaking, and behaving, meta-state them with a frame of ownership and then by welcoming and practicing the use of our powers, step more and more into our power zone. This increases our self-efficacy, activity, proactivity, etc. The more resourcefulness we have, the more willing and able we are to face reality and to master our world.

1.5.4.4 Meta-Stating Flexibility

A fourth process for strengthening ego-strength involves replacing rigidity and closeness of mind with flexibility, willingness to accept change, and openness to the flux and flow of life. In weak ego-strength we strongly feel a sense of insecurity. Then we don't want things to change we want things to stay the same. As we develop more personal security, we are more open to change and to adapting and to using our resources. Openness to change, which supports personal flexibility, enables us to face the world and our future with an optimistic attitude. Then, if things change, we feel fine because our security lies in ourselves and in our strength of ego to figure things out.

1.5.4.5 Optimistic Explanatory Style

A fifth thing that increases the strength of our ego to face reality is the ability and attitude of interpreting things in such a way that we put a positive spin on things. We call this attitude, optimism. It stands in contrast to pessimism.

Martin Seligman identified both the pessimistic and optimistic explanatory styles in his research with laboratory animals and then with humans. The pessimistic style consists of three P's: personal, pervasive, and permanent. We take a "bad" thing, an unpleasant or unfortunate event and make it about ourselves (personal), about everything in our lives (pervasive) and about forever (permanent) and that's a formula for pessimism and clinical depression.

Conversely, when we index the specifics of an event, we contain the "evil" or "badness" because then it is about the event and not us (non-personal), it is here in this situation and context (non-pervasive), and it is today (non-permanent). This frames the negative event so that it doesn't contaminate us with the "evil" and infiltrate our mind so that's all we can see and feel. It enables us to then think about other things, what we truly are and what we care about, what we can do and how we can take positive action to make a difference. This begins to create the attitude of optimism as it operates from a position of strength, confidence, possibilities, and taking pleasure in what is going right.

It is in this way that we develop sufficient ego-strength to face reality and to not be overwhelmed by frustration, disappointment, hurt, etc. We do what we can with what we have and we enjoy the process every day.

1.5.4.6 Consciously raising our Frustration and Stress Tolerance Level

If you look around the human situation at all the things that can and does trigger “stress” in people or that frustrates them and make a list—you will eventually make a list of everything. And the very things that frustrate the hell out of some people thrill and excite others. What one experiences as a stressor, another enjoys as excitement. In this, both stress and frustration are in the eye of the beholder.

The strength of yourself develops by framing things in such a way that we endow it with empowering meanings. Positive framing and reframing then allows us to take a new view of things which then effects how we actually feel about things. In this way, framing and reframing things can enhance our ego-strength to face, cope with, and even master the challenges of life. We often do this by developing the kinds of frames of mind that allow us to develop the insights, distinctions, and skills so that what would frustrate others gives us opportunities for development.

A study of Type D personality traits can hurt heart health (Harvard Mental Health Letter 2005) **that the BOSTON —Chronic anger and hostility, or any severe stress, can impair cardiovascular health. None of us totally escapes feeling burdened, stressed, sour, or angry, but new evidence may now help us find the people at most risk, reports the November issue of the**

People with a set of traits known as the Type D (“distressed”) personality suffer from a high degree of emotional distress, but they consciously suppress their feelings. Early studies show that once Type D’s develop coronary artery disease, they are at greater risk of dying, and they often have a poorer quality of life.

How might Type D personality traits contribute to poor heart health? The Harvard Mental Health Letter offers some possibilities:

Stress hormones may be so poorly regulated in Type D's that the heart beats faster, blood pressure rises, blood vessels clench, and extra blood sugar is released. Type D's may have more active immune systems, and therefore more inflammation, which results in damage to blood vessels and the rupture of atherosclerotic plaques. Platelets may get stickier, and so be more likely to form clots in coronary arteries. Type D's could have higher concentrations of tumor necrosis factor, a chemical that promotes all these processes.

Studies are needed to determine what effects psychological treatments have on the risks of heart disease. "Whatever its effects on heart disease, psychiatric treatment for Type D patients certainly can relieve anxiety and depression, reduce stress, improve self-esteem, promote better self-care, and ultimately enhance their quality of life," says Dr. Michael Craig Miller, Editor in Chief of the Harvard Mental Health Letter.

A study of Distressed"-personality heart-disease patients at increased risk of future events, Tilburg, the Netherlands - Heart-disease patients with a general propensity to psychological distress are at a significantly higher risk of adverse cardiovascular events, according to the results of a new analysis. In identifying individuals with the type-D personality construct, physicians might be able to better identify high-risk patients at risk for future events, say researchers.

"This is the type of patient that tells you everything is okay, that there are no problems, but you can sense that something is going on, something is not quite right," explained lead investigator Dr Johan Denollet (**Tilburg University, the Netherlands**)

A study of Type D personality and depression for C.H.D., Diabetes, Kidney, Blood pressure patients.**Zala,K,J,2010**), that the result is there is significance difference in male and female for all dieses.(Including area and Social economics status variables)

A study of Type D personality and depression between psychosomatic male and female **S, Herachi, 2009**), that the result is there is significance difference between male and female on Type D personality and depression.

A study of Type D personality and depression between psychosomatic and Normal people.**S, R, Thomas, 2009**), that the result is there is significance difference between psychosomatic and Normal people on Type D personality and depression.

A study of Ego strength and depression between psychosomatic and Normal people. **L, V, Waugh, 2010**), that the result is there is significance difference between psychosomatic and Normal people on Ego strength and depression.

1.6 IMPORTANCE OF STUDY

This section brings out the various organizations in which the study was undertaken and under which guidance the study was authorized. Saurashtra University, Dept of Psychology, Rajkot authenticated the research work and under the guidance of **Dr. T.L.Zalawadia**, The clinical practice and Data collection for psycho somatic patients under the guidance was undertaken with the help of **Dr Mukesh patel, Dr. Samani**, and other Doctors. American Psychiatric association, with their website **www.apa.org, www.en.wikipedia.org, www.google.com** contributed in the collection of the literature from their websites. Population of general category from the Saurashtra, surendranagar, Kutch etc. region and also population of various organizations working in this region have been considered for the study. The group was randomly selected by administering the testing inventories. The library of **Saurashtra University, The library of Gujarat University, the Library of Surendranagar, Rajkot, M.B.College (Gondal)**, have largely benefited in collection of the historical evidences of Psychology. **Government Hospital of Rajkot, Government Hospital of Surendranagar, Government Hospital of Kutchh etc.** its associates have largely contributed in the collection of the data for the research work.

Now after having known the organizations in which the study was conducted, it is essential to understand as to how the study was conducted an overview of the same is brought under: This study has been intended to bring out the clinical importance of the differences between psychosomatic and normal people on Type d personality, Depression and Ego strength. this study is very useful from different field like as: Health psychology, medical or clinical psychology and also community psychology. Last but not least this study high lights in the area of mental health. By achieving mental health of the patients, we produce the sane society for future mankind.

1.7 ORGANIZATION OF STUDY MATERIALS

So the entire study is divided into five chapters and brief description of each chapter is brought down here under:

Chapter 1: Introduction

The first chapter is of the introductory nature dealing with the need of this type of research work and its relevance in the present day context tracing to the historical background of psychosomatics Dieses, the classification for I.C.D.and related Health problem, what is Type d personality, what is depression and Ego strength etc.

Chapter 2: Review of Literature

In this chapter various literatures on the psychosomatic dieses, Type D personality, depression and ego strength have been seen and discussed also. First of we seen the Review of Literature for Type d personality than we seen the Review of Literature for Depression and in the last we seen the Review of Literature for Ego strength.

Chapter 3: Research design of the study, Procedures and Method of analysis

The third chapter deals with the research design. It also states how the sample was selected from the population, which sampling method was used and its detailed narration has been discussed. Collection of data, research tools, measurement of independent variables discussed in detail.

Chapter 4: Analysis of the Result, Interpretation and Discussions

This chapter deals with the analysis of the chapter in terms of statistics and the interpretation from the inferences obtained through the statistics. Further, case histories, suggestions for improvement and recommendations are discussed in detail.

Chapter 5: Research Report

This chapter deals with the summary of the research, conclusions based on statistical technique, conclusions regarding all the variables, Recommendations, suggestions for further research are discussed.

Chapter-2
The Review of
Relevant
Literature

Chapter-2
The Review of Relevant Literature

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2.1. Introduction:

Review of studies to literature is an important pre-requisite for actual planning and then execution of any research work. The researcher need to acquire up to date information of what has been thought and said in a particular area, so that they can drive benefit from the work of their predecessors. According to **Scot & Wertheimer (1992)**”Review of related literature may help to make progress towards the solution of new problems emphasizing to the importance of survey of related literature. This section chiefly brings out the literature materials which were used as guidelines for the study. Further, this section brings out the topics such as Type d personality studies, Depression studies and Ego strength studies. Now, let us examine each topic under their heads explicitly.

2.2 A Review of Relevant literature for Type-D Personality:

2.2.1 Type D personality, depressive symptoms and work-related health outcomes

Johan Denollet & Paula M.C (2010)

Objective:

Personality may play a decisive role in perceiving work-related characteristics as stressful, leading to adverse health outcomes. Persons with a distressed personality (Type D) experience increased negative emotions while inhibiting these emotions in social situations. We investigated the role of Type D personality on adverse health outcomes, sick leave, and burnout and disability pension. The mediating role of depressive symptoms on this relation was assessed because Type D represents a vulnerability factor for depression.

Methods:

In a cross-sectional community sample of the Dutch population ($n = 1,172$) Type D personality was related to sick-leave (five categories of days per year), burnout, and disability pension, controlling for confounders.

Results:

Individuals with Type D personality reported more burnout (27% vs 8%), disability pension (32% vs 11%), and had an increased incidence of short-term sick leave ($\chi^2 = 13.1, p = 0.011$) as compared to non-Type D's. Type D was significantly related to burnout (odds ratio (OR) = 4.16) and disability pension (OR = 2.62) independent of confounders. The Sobel test indicated significant mediation of depression on the relation between Type D personality and the work-related health outcomes. After mediation Type D personality remained significantly related to burnout, indicating a unique unshared effect.

Conclusions:

Type D personality is related to adverse health outcomes in the working population, mediated by depression, which warrants further research for this personality type.

2.2.2 Clustering of Negative Affectivity and Social Inhibition in the Community: Prevalence of Type D Personality as a Cardiovascular Risk Marker

Rebecca Emeny & Jens Baumert (2009)

Objective:

To explore the prevalence of Type D personality—the combination of negative affectivity and social inhibition—in the general population and its relationship to other cardiovascular risk factors, including psychopathological symptoms. Type D personality has been identified as a prognostic risk factor for various cardiovascular disease conditions.

Methods:

In a representative sample of 2698 individuals (aged 35–74 years), psychological, lifestyle, and somatic risk factors were investigated with laboratory testing, self-report measures, and a clinical interview. Type D was assessed with the German Type D Scale-14.

Results:

The prevalence of Type D was 23.4% (95% confidence interval [CI], 21.2–25.6) in men and 26.9% (95% CI, 23.7–30.1) in women and, thus, in the range of classical risk factors (e.g., hypercholesterolemia). In age-adjusted analysis, Type D was associated with psychopathological symptoms, including depression and somatic symptom burden. With the exception of physical inactivity in both sexes, hypertension in women and hypercholesterolemia in men, Type D was not associated with classical cardiovascular risk factors. Multivariate analysis revealed depression, exhaustion, anxiety, and low self-rated health as associated with Type D in both sexes (odds ratios, 1.97–3.21 in men, 1.52–2.44 in women).

Conclusions:

A Type D personality disposition can be found in about a quarter of the general population, which is comparable to the prevalence of classical cardiovascular risk factors. In both sexes, an independent association to Type D appeared mainly in psychopathological symptoms. Type D constitutes a relevant and independent risk marker in the community and should receive attention in clinical practice.

2.2.3 A General Propensity to Psychological Distress Affects Cardiovascular Outcomes (Type D (Distressed) Personality Profile)

Johan Denollet & Angélique A. Schiffer (2008)

Evidence Specific negative emotions have been related to adverse cardiac events, but a general propensity to psychological distress may also affect cardiovascular outcomes. In this summary article, we provide a reliable estimate of the prognostic risk associated with Type D (distressed) personality, a general propensity to distress that is defined by high scores on the “negative affectivity” and “social inhibition” traits. Quantitative analyses of prospective studies that included a total of 6121 patients with a cardiovascular condition indicated that Type D personality was associated with a more than 3-fold increased risk of adverse events (9 studies) and long-term psychological distress (11 studies). In addition, a narrative review of 29 studies showed that Type D personality and depression are distinct manifestations of psychological distress, with different and independent cardiovascular effects. There are also plausible biological and

behavioral pathways that may explain this adverse effect of Type D personality. The findings reported in this summary article support the simultaneous use of specific and general measures of distress in cardiovascular research and practice.

2.2.4 Type D personality in the general population: a systematic review of health status, mechanisms of disease, and work-related problems

Floortje Mols* & Johan Denollet (2010)

Background:

The objective was to review all available literature concerning Type D (distressed) personality among the general population and to discuss its implications for research on health status, disease-promoting mechanisms and work-related problems in non-clinical populations.

Methods:

A computerized search of the literature was performed independently and in duplicate by both investigators on December 21st, 2009. Published research reports were included if they studied Type D personality among the general population. Nineteen articles were selected and they were subjected to an 11-item standardised quality checklist by both investigators.

Results:

The methodological quality of the selected studies was adequate to high. The studies included in this review showed that the presence of Type D characteristics had a negative impact on mental health status (more symptoms of depression, anxiety, post-traumatic stress disorder, mental distress, passive coping, and less social support) and physical health status (more somatic complaints, lower health status, more influenza-like illness reporting). Other studies reported on behavioral and biological mechanisms of disease in apparently healthy individuals with a Type D personality. Finally, some studies also showed a negative effect of Type D personality on work-related problems (Higher absence-leave, higher levels of vital exhaustion and burnout, and more work-related stress).

Conclusions:

Type D personality is a vulnerability factor for general psychological distress that affects mental and physical health status and is associated with disease-promoting mechanisms and work-related problems in apparently healthy individuals.

2.2.5 Personality and depressive symptoms: a multi-dimensional analysis.

Prezybeck T,R & Spitznagel E,L (2009)

Background:

The relationship of temperamental aspects of personality to symptoms of depression in a community-based sample of 804 individuals was examined using a multi-dimensional approach to account for heterogeneity in symptom patterns.

Methods:

The Temperament and Character Inventory (TCI) was used to assess personality and the Center for Epidemiologic Studies Depression scale (CES-D) was used to measure depressive symptoms. Canonical correlation analysis was used to relate CES-D item combinations to temperament traits in multiple dimensions. The relationships between temperament and various conditions correlated with depression were examined using logistic regression.

Results:

Temperamental aspects of personality are related not only to total CES-D score, but also to the patterns of CES-D items endorsed by subjects. High Harm Avoidance is related to total CES-D score; high Reward Dependence combined with high Persistence is associated with restless sleep and subjective symptoms; high Reward Dependence combined with low Persistence is negatively associated with appetite loss and low energy; high Novelty Seeking is related to maintenance of positive affect and inability to concentrate. High Novelty Seeking is also associated with past suicide attempts, after adjusting for total CES-D score.

Limitations:

Cross-sectional data prevent analysis of causation; the severest cases of clinical depression may not be represented in a general population sample. Depressive symptoms are self-reported.

Conclusions:

Substantial differences in level of symptoms and in symptom patterns exist among individuals in a continuum of depressed states and those differences are partially explained by temperament traits.

2.2.6 Type-D personality but not depression predicts severity of anxiety in heart failure patients at 1-year follow-up.

Pedersen S, S & Denollet J. (2010)

Background:

Chronic heart failure (CHF) is a debilitating condition associated with poor outcome, including increased anxiety. However, anxiety and its determinants have not yet been studied systematically in CHF. We examined whether type-D personality and depressive symptoms would predict clinically significant anxiety at 1-year follow-up.

Methods:

Consecutive patients with systolic CHF (n=149; 79% men; mean age 66+/-8.6) completed the type-D Scale (DS14), the Beck Depression Inventory, and the Anxiety Sensitivity Index at baseline. A clinical interview (Hamilton Anxiety Rating Scale) was used to assess clinically significant anxiety at 1-year follow-up.

Results:

At 12 months follow-up, 26% (9/35) of type-D patients had clinically significant anxiety versus only 6% (7/114) of the non type-Ds (p=0.001). In univariable analyses, type-D personality (OR=5.3; p=0.002) and anxiety sensitivity (OR=4.5; p=0.009), but not depressive symptoms (p=0.27) predicted clinically significant anxiety. Type-D remained an independent predictor of anxiety at 1 year (OR=5.7; p=0.01), controlling for depressive symptoms, anxiety sensitivity, socio-demographic and clinical

variables. Adding type-D in a hierarchical logistic regression model, comprising standard and psychological risk factors, enhanced the level of prediction of clinically significant anxiety substantially ($-2LL=75.16$ $\chi^2(2)=26.46$; $p=0.009$).

Conclusions:

Type-D personality, but not depressive symptoms predicted 1-year clinically significant anxiety. The type-D scale could be used to identify CHF patients at high risk of anxiety, as these patients may be at an increased risk of adverse prognosis and impaired quality of life.

2.2.7 Type D personality is associated with increased metabolic syndrome prevalence and an unhealthy lifestyle in a cross-sectional Dutch community sample.

Mommersteeg P,M & Kupper N (2008)

Background:

People with Type D-Distressed-personality have a general tendency towards increased negative affectivity (NA), while at the same time inhibiting these emotions in social situations (SI). Type D personality is associated with an increased risk of adverse outcomes in patients with cardiovascular disease. Whether Type D personality is a cardiovascular risk factor in healthy populations remains to be investigated. In the present study, the relations between Type D personality and classical cardiovascular risk factors, i.e. metabolic syndrome and lifestyle were investigated in a Dutch community sample.

Methods:

In a cross-sectional study 1592 participants were included, aged 20-80 years. Metabolic syndrome was defined by self-report, following the International Diabetes Federation-IDF-guidelines including an increased waist circumference, dyslipidemia, hypertension, and diabetes. In addition lifestyle factors smoking, alcohol use, exercise and dietary habits were examined. Metabolic syndrome prevalence was stratified by Type D personality (a high score on both NA and SI), lifestyle and confounders age, gender, having a partner, higher education level, cardiac history, family history of cardiovascular disease.

Results:

Metabolic syndrome was more prevalent in persons with a Type D personality (13% vs. 6%). Persons with Type D personality made poorer lifestyle choices, adhered less to the physical activity norm (OR = 1.5, 95%CI = 1.1-2.0, p = .02), had a less varied diet (OR = 0.50, 95%CI = 0.40-0.70, p < .0005), and were less likely to restrict their fat intake (OR = 0.70, 95%CI = 0.50-0.90, p = .01). Type D personality was related to a twofold increased risk of metabolic syndrome (OR = 2.2, 95%CI = 1.2-4.0, p = .011), independent of lifestyle factors and confounders.

Conclusions:

Type D personality is related to an increased prevalence of metabolic syndrome and unhealthy lifestyle, which suggests both behavioral and biological vulnerability for development of cardiovascular disorders and diabetes.

2.2.8 Heritability of type-D personality

Kupper N & Denollet J. (2009)

Objective:

To quantify the influence of genes and environment on individual differences in type-D status and the type-D subcomponents negative affectivity and social inhibition. Type-D personality independently predicts poor prognosis in patients with cardiovascular disease. However, no previous study has determined the heritability of type-D personality.

Methods:

This study determined type-D personality by applying the "combination of scales" method to survey data collected by the Netherlands Twin Register in 3331 healthy, young adult twins. Using structural equation modeling (SEM), the relative contributions of additive genetic, no additive genetic, and no shared environmental factors to the variance in type-D and its subcomponents were determined.

Results:

SEM indicated that type-D personality was substantially heritable (52%). The subcomponents negative affectivity and social inhibition were equally heritable, with broad heritability estimates of 46% and 50%. Although negative affectivity was determined by additive genetic effects and no shared environment, individual differences in social inhibition were predominantly determined by no additive genetic effects and no shared environment.

Conclusions:

This study provides strong evidence that genes are important in determining individual differences in type-D personality and the type-D subcomponents negative affectivity and social inhibition.

2.2.9 Association of Type D personality to perceived side effects and adherence in CPAP-treated patients with OSAS.

Harder L & Svanborg,E (2008)

Continuous positive airway pressure (CPAP) is the treatment of choice for obstructive sleep apnoea syndrome (OSAS), but side effects are common and long-term adherence low. The Type D (distressed) personality is defined as a combination of negative affectivity and social inhibition. The association of Type D personality with adherence has not been studied in CPAP-treated patients with OSAS. This study aimed to describe the prevalence of Type D personality in OSAS patients with CPAP treatment longer than 6 months and the association with self-reported side effects and adherence. A cross-sectional descriptive design was used. A total of 247 OSAS patients with a mean use of CPAP treatment for 55 months (6-182 months) were included. Data collection was achieved by two questionnaires; the Type D scale 14 (DS14) (Type D personality), SECI (side effects of CPAP), as well as from medical records (clinical variables and objective adherence to CPAP treatment). Type D personality occurred in 30% of the patients with OSAS and significantly ($P < 0.05-0.001$) increased the perceived frequency and severity of a broad range of side effects. The objective adherence was significantly lower ($P < 0.001$) for OSAS patients with Type D compared to OSAS patients without Type D, both with regard to a mean use of 4 h per night and 85% of the self-rated sleep time per night.

The additional effect of a Type D personality on perceived side effects and adherence to CPAP treatment found in this study could be used by healthcare personnel when evaluating patients waiting for treatment.

2.2.10 Type-D personality mechanisms of effect: the role of health-related behavior and social support

Grealy M,A & O'Carroll R,E (2010)

Objective:

To (a) investigate the prevalence of type-D personality (the conjoint effects of negative affectivity and social inhibition) in a healthy British and Irish population; (b) to test the influence of type-D on health-related behavior, and (c) to determine if these relationships are explained by neuroticism.

Methods:

A cross-sectional design was employed; 1012 healthy young adults (225 males, 787 females, mean age 20.5 years) from the United Kingdom and Ireland completed measures of type-D personality, health behaviors, social support, and neuroticism.

Results:

The prevalence of type-D was found to be 38.5%, significantly higher than that reported in other European countries. In addition, type-D individuals reported performing significantly fewer health-related behaviors and lower levels of social support than non-type-D individuals. These relationships remained significant after controlling for neuroticism.

Conclusions:

These findings provide new evidence on type-D and suggest a role for health-related behavior in explaining the link between type-D and poor clinical prognosis in cardiac patients.

2.2.11 Validity of Type D personality in Iceland: association with disease severity and risk markers in cardiac patients

Erla Svansdottir & Daniel T,O (2009)

Type D personality has been associated with poor prognosis in cardiac patients. This study investigated the validity of the Type D construct in Iceland and its association with disease severity and health-related risk markers in cardiac patients. A sample of 1,452 cardiac patients completed the Type D scale (DS14), and a subgroup of 161 patients completed measurements for the five-factor model of personality, emotional control, anxiety, depression, stress and lifestyle factors. The Icelandic DS14 had good psychometric properties and its construct validity was confirmed. Prevalence of Type D was 26–29%, and assessment of Type D personality was not confounded by severity of underlying coronary artery disease. Regarding risk markers, Type D patients reported more psychopharmacological medication use and smoking, but frequency of previous mental problems was similar across groups. Type D is a valid personality construct in Iceland, and is associated with health-related risk markers, but not cardiac disease severity.

2.2.12 Coping Mediates the Association between Type D Personality and Perceived Health in Chinese Patients with Coronary Heart Disease

Xiao-nan Yu & Jianxin Zhang (2010)

Background:

Increasing evidence show that Type D personality is a risk factor for morbidity, mortality, and quality of life of patients with coronary vascular disease. Few studies examined coping as a potential behavioral mechanism to explain the harmful effect of Type D personality.

Purpose:

This study examined the association between Type D personality, coping, and perceived health among Chinese patients with coronary heart disease (CHD).

Methods:

One hundred seventeen CHD patients completed the assessments on Type D personality, coping, perceived severity of CHD, and morale.

Results:

There was no difference on severity of coronary artery stenosis between Type D and non-Type D patients. Compared to the non-Type D patients, the Type D patients perceived higher severity of CHD (5.31 ± 2.41 versus 4.45 ± 2.17 , $p < 0.05$) and lower morale (12.67 ± 4.71 versus 15.00 ± 4.43 , $p < 0.05$), and used less confrontation (16.90 ± 5.39 versus 20.88 ± 4.95 , $p < 0.001$) and more acceptance–resignation coping (10.16 ± 3.50 versus 8.35 ± 3.48 , $p < 0.05$). Mediation analyses showed that confrontation coping mediated the association between Type D personality and perceived severity of disease, and acceptance–resignation coping mediated the association between Type D personality and morale after controlling for age, gender, and clinical variables.

Conclusion:

The Type D patients used maladaptive coping in response to disease. These coping strategies fully mediated the association between Type D personality and perceived health. Implications for integrating coping training into the intervention for patients with a Type D personality are discussed.

2.2.13 Cortisol awakening response is elevated in acute coronary syndrome patients with type-D personality

Daisy L,W & Linda P,P (2008)

Objective:

Type-D or “distressed” personality and depression following admission for acute coronary syndrome (ACS) have been associated with poor clinical outcome. The biological pathways underpinning this relationship may include disruption of the hypothalamic–pituitary–adrenocortical (HPA) axis. We therefore assessed cortisol output in patients who had recently suffered from ACS.

Method:

Salivary cortisol was assessed eight times over a 24-h period in 72 patients within 5 days of admission for ACS. Depressive symptoms were measured with the Beck Depression Inventory (BDI), and type-D personality was measured with the Type-D Scale-16. Particular attention was given to cortisol awakening response (CAR), which was measured as the difference in cortisol between waking and peak responses 15–30 min later.

Results:

Cortisol showed a typical diurnal pattern, with low levels in the evening, high levels early in the day, and CAR averaging 7.58 ± 10.0 nmol/l. Cortisol was not related to the severity of ACS or underlying coronary artery disease or to BDI scores. The CAR was positively associated with type-D personality independently of age, gender, and body mass ($P=.007$). Linear regression showed that type-D personality accounted for 7.9% of the variance in CAR after age, sex, body mass, BDI, cortisol level on waking, and fatigue had been taken into account ($P=.008$).

Conclusions:

Type-D personality may be associated with disruption of HPA axis function in survivors of acute cardiac events and may contribute to heightened inflammatory responses influencing future cardiac morbidity.

2.2.14 Type D personality, temperament, and mental health in military personnel awaiting deployment

Denollet J & Heijnen C,J (2009)

Background:

The Type D (distressed) personality refers to a general propensity to psychological distress defined by the combination of negative affectivity and social inhibition. Type D personality predicts poor mental and physical health in cardiac patients, but it has been argued that its assessment is affected by the state of illness. Therefore, validation of the Type D construct in healthy adults remains essential.

Purpose:

The objectives of this study were (1) to validate Type D personality against temperament and character dimensions in young, healthy adults and (2) to investigate the association between Type D personality and pre-deployment mental health.

Method:

Type D personality, temperament, and questionnaires on mental health were filled out by 86 healthy male Dutch military personnel before UN deployment to Afghanistan.

Results:

Type D personality was present in 16% of healthy military personnel before deployment. The Type D components social inhibition ($\alpha=0.89$) and negative affectivity ($\alpha=0.85$) correlated positively with harm avoidant temperament ($r=0.66$ and 0.46) and negatively with self-directed character ($r=-0.33$ and -0.57). In addition, these four traits loaded on the same broad personality dimension. Military men with a Type D personality not only reported significantly less self-directedness and more harm avoidance as compared to non-Type D men ($p<0.001$) but also more symptoms of PTSD, general emotional distress, and hostility (all $p<0.012$).

Conclusions:

Type D personality was associated with harm avoidance, low self-directedness, and increased symptoms of PTSD and hostility in men awaiting deployment. This association was not caused by any somatic confounding in these young, healthy men.

2.2.15 Type D is also associated with poor health status (including symptoms of anxiety and depression, and lower quality of life) in various cardiovascular disease patient groups

Johnston D,W & Hay J,L(2010)

Type D personality (the combination of negative affect and social inhibition) is associated with poor prognosis in cardiac patients. The current study aims to investigate the relationship between Type D and health-related behaviours. In a cross-sectional study, 200 healthy participants completed measures of Type D personality, and health-related

behaviours. The results showed that Type D individuals engaged in more unhealthy behaviours including smoking, poor diet and lack of physical activity than non-Type D individuals. The association between Type D personality and maladaptive health behaviours may represent one mechanism to explain the link between Type D and ill-health

2.2.16 Type D personality is associated with maladaptive Health related Behaviours

Type D is a personality construct that is used to describe individuals that experience high levels of negative affect along with high levels of social inhibition (Denollet et al, 1996). Research has examined the effect of Type D on patients with established cardiovascular disease (CVD), and has indicated that Type D individuals have a poorer clinical prognosis than non-Type D individuals (e.g. Denollet et al., 2006). Type D has been identified as an important predictor of poor health outcomes in CVD patients, including mortality, cardiac events, and health status. Several studies have demonstrated that Type D is associated with a four-fold increased risk of mortality in coronary heart disease (CHD) patients, independent of traditional biomedical risk factors (Denollet et al., 2000; Denollet et al., 2006). More recent studies have also demonstrated a similar relationship between Type D and mortality in patients with chronic heart failure (CHF) (Schiffer et al., 2010), and peripheral arterial disease (PAD) (Aquarius et al., 2009). Research has also found that Type D personality is associated with maladaptive Health related Behaviours.

2.2.17 A study of Negative affective, social inhibition (Type D personality) and Depression of C.H.D., Diabetes, kidney and Blood pressure patients

Zala, K, J, (2010)

Purpose:

A study of Negative affective, social inhibition (Type D personality) and Depression of C.H.D., Diabetes, kidney and Blood pressure patients.

Method:

In this research two tests were administered individually as well as on male and female of different ages, while collecting data for the study before attempting the

questionnaire. In a representative sample of 320 individuals (Different 4 dieses). Type D was assessed with the Gujarati version for Dennollet Type D Scale-14 and Depression assessed for Lonard and Deragreties scale.

Conclusios:

There is significance difference each of Dieses and there is significance difference between sex (male and female), Area (Rural and Urban) and social economic status (High, medium, Low) variables.

2.3 A Review of Relevant literature for Depression study:

2.3.1 A study of Depression: The Response to Psychotherapy in Chronic Ulcerative Colitis

Aaron krush & et al. (2009)

The outcome of psychotherapeutic treatment of 30 patients with chronic ulcerative colitis was compared with 6 pretreatment factors: psychiatric diagnosis, precipitating stress, Depression, psychological defenses, nature of object attachments, secondary elaboration of colitis symptoms, and ego strength. Somatic and psychological states were reevaluated 1-11 years after the end of psychotherapy.

Schizophrenia nearly doubled the likelihood of a poor prognosis for the colitis. Precipitating stress was frequently reported but was more common in no psychotic patients. There were no defenses characteristics of colitis although every patient showed a significant degree of regression. Chronic hostility coexisted with anxiety about loss of control. Patients with depression mixed with paranoid distrust had a poorer prognosis than did those with reactive depression to loss of an important dependency object. Secondary gain from the illness perpetuated the colitis and worsened the prognosis.

Patients with strong symbiotic needs and attitudes of passive helplessness had a poorer prognosis than those who tried to remain active and relatively independent. Severe ego impairment almost always led to a poor prognosis although ego weakness did not necessarily prevent somatic improvement. Patients who began treatment with greater ego strength, however, had complete remissions of their colitis for as long as 11 years.

2.3.2 Leptin Levels and Depressive Symptoms in People with Type 2 Diabetes: The Edinburgh Type 2 Diabetes Study

Javier Labad & Jackie F(2009)

Objective:

Depression in Type 2 diabetes is associated with obesity, cardiovascular disease, and mortality. Leptin is a plausible mediating factor because it has been related to obesity, depression, and cardiovascular disease in non-diabetic populations. We sought to assess whether leptin is related to depressive symptoms in people with Type 2 diabetes.

Methods:

One thousand fifty-seven subjects (48.5% women, mean [standard deviation] age = 67.9 [4.2] years) with Type 2 diabetes were assessed for depressive symptoms using the Hospital Anxiety and Depression Scale and other clinical variables by interview and physical examination. Plasma leptin was determined by radioimmunoassay. Multiple linear regressions were performed to assess the relationship between depressive symptoms and leptin while adjusting for other covariates. A mediation analysis was performed to test whether depressive symptoms mediated the relationship between obesity and leptin.

Results:

In univariate analyses, symptoms of depression were related to leptin in men ($r = 0.214, p < .001$) and women ($r = 0.146, p = .007$). When adjusting for other covariates including body mass index, ischemic heart disease, glycated hemoglobin, duration of diabetes, and treatment with antidepressants, insulin, or glucocorticoids, using a hierarchical multiple linear regression, depressive symptoms (in Hospital Anxiety and Depression Scale—depression score) were significant only in men ($B = 0.083$, standard error = 0.037, $p = .03$). In the mediation analysis, depressive symptoms partially mediated the effect of obesity (body mass index) on leptin in men but not in women.

Conclusions:

There is a sex difference in the relationship between depressive symptoms and leptin in people with Type 2 diabetes, with a positive association in men but not in women. Adipocyte-derived factors are associated with depressive symptoms in Type 2 diabetes.

2.3.3 Association of Depression and Diabetes Complications: A Meta-Analysis

Mary de Groot & Patrick J. Lustman(2010)

Objective:

The objective of this study was to examine the strength and consistency of the relationship between depression and diabetes complications in studies of type 1 and type 2 adult patients with diabetes.

Method:

MEDLINE and PsychINFO databases were searched for articles examining depression and diabetes complications in type 1 and type 2 diabetes samples published between 1975 and 1999. Meta-analytic procedures were used. Studies were reviewed for diabetes type, sample size, statistical tests, and measures of diabetes complications and depression. Significance values, weighted effect sizes r , 95% confidence intervals (CI), and tests of homogeneity of variance were calculated for the overall sample ($k = 27$) and for subsets of interest.

Results:

A total of 27 studies (total combined $N = 5374$) met the inclusion criteria. A significant association was found between depression and complications of diabetes ($p < .00001$, $z = 5.94$). A moderate and significant weighted effect size ($r = 0.25$; 95% CI: 0.22–0.28) was calculated for all studies reporting sufficient data ($k = 22$). Depression was significantly associated with a variety of diabetes complications (diabetic retinopathy, nephropathy, neuropathy, macrovascular complications, and sexual dysfunction). Effect sizes were in the small to moderate range ($r = 0.17$ to 0.32).

Conclusions:

These findings demonstrate a significant and consistent association of diabetes complications and depressive symptoms. Prospective, longitudinal studies are needed to identify the pathways that mediate this association.

2.3.4 Depressive symptomology and the prevalence of cardiovascular risk factors among older men and women from Cyprus; the MEDIS (Mediterranean Islands Elderly) epidemiological study.

Panagiotakos DB & Kinlaw M(2008)

Aim:

The purpose of this paper is to explore the link between symptoms of depression and the prevalence of cardiovascular risk factors in older adults.

Method:

During 2005, 136 older men and 164 women from various parts of Cyprus agreed to participate in the study. The sampling was random and multistage (according to age-sex distribution of the referent population). All participants were living in the community and not in institutions. Among several socio-demographic, bioclinical, lifestyle and dietary characteristics, depressive symptoms were assessed using the short version of the Geriatric Depression Scale (GDS).

Results:

Participants without signs of depression, typically, have fewer cardiovascular risk factors (i.e. hypertension, hypercholesterolemia, diabetes and obesity) than those with moderate or severe symptoms. Even when behavioural variables (e.g. diet, smoking, exercise) are statistically controlled, participants that are higher than others on depression are more likely to have hypertension and/or hypercholesterolemia than those with lower scores. Every one-unit increase in GDS score (range 0-15) is associated with a 12% higher likelihood of having an additional cardiovascular disease risk factor.

Conclusions:

Symptoms of depression are positively associated with the number of cardiovascular risk factors in 'healthy' older adults, irrespective of lifestyle behaviours (e.g. smoking, dietary intake and physical activity).

2.3.5 Personality and depressive symptoms: a multi-dimensional analysis.

Grucza RA & et al.(2009)

Background:

The relationship of temperamental aspects of personality to symptoms of depression in a community-based sample of 804 individuals was examined using a multi-dimensional approach to account for heterogeneity in symptom patterns.

Method:

The Temperament and Character Inventory (TCI) was used to assess personality and the Center for Epidemiologic Studies Depression scale (CES-D) was used to measure depressive symptoms. Canonical correlation analysis was used to relate CES-D item combinations to temperament traits in multiple dimensions. The relationships between temperament and various conditions correlated with depression were examined using logistic regression.

Result:

Temperamental aspects of personality are related not only to total CES-D score, but also to the patterns of CES-D items endorsed by subjects. High Harm Avoidance is related to total CES-D score; high Reward Dependence combined with high Persistence is associated with restless sleep and subjective symptoms; high Reward Dependence combined with low Persistence is negatively associated with appetite loss and low energy; high Novelty Seeking is related to maintenance of positive affect and inability to concentrate. High Novelty Seeking is also associated with past suicide attempts, after adjusting for total CES-D score.

Limitation:

Cross-sectional data prevent analysis of causation; the severest cases of clinical depression may not be represented in a general population sample. Depressive symptoms are self-reported.

Conclusion:

Substantial differences in level of symptoms and in symptom patterns exist among individuals in a continuum of depressed states and those differences are partially explained by temperament traits.

2.3.6 A study of Depression: The Response to Psychotherapy in Chronic Ulcerative Colitis.

Aaron krush & et al. (2009)

The outcome of psychotherapeutic treatment of 30 patients with chronic ulcerative colitis was compared with 6 pretreatment factors: psychiatric diagnosis, precipitating stress, Depression, psychological defenses, nature of object attachments, secondary elaboration of colitis symptoms, and ego strength. Somatic and psychological states were reevaluated 1-11 years after the end of psychotherapy.

Schizophrenia nearly doubled the likelihood of a poor prognosis for the colitis. Precipitating stress was frequently reported but was more common in no psychotic patients. There were no defenses characteristics of colitis although every patient showed a significant degree of regression. Chronic hostility coexisted with anxiety about loss of control. Patients with depression mixed with paranoid distrust had a poorer prognosis than did those with reactive depression to loss of an important dependency object. Secondary gain from the illness perpetuated the colitis and worsened the prognosis.

Patients with strong symbiotic needs and attitudes of passive helplessness had a poorer prognosis than those who tried to remain active and relatively independent. Severe ego impairment almost always led to a poor prognosis although ego weakness did not necessarily prevent somatic improvement. Patients who began treatment with greater ego strength, however, had complete remissions of their colitis for as long as 11 years.

2.3.7 Depression in rheumatoid arthritis patients: demographic, clinical, and psychological predictors

Tanya C,V& Graham T,B (2007)

Objective:

To confirm the prevalence of depression in a sample of rheumatoid arthritis (RA) patients; to identify the most significant predictors of depression in RA and to explore patient's attitudes to medication in relation to depression.

Methods:

A cross-sectional survey was used to collect data from 134 RA patients (77% female, 23% male). Participants were divided into depressed and non depressed groups based on their scores on the Center for Epidemiological Studies-Depression (CES-D) scale. Discriminant analysis was conducted to identify the predictors that would best categorize patients into those two groups.

Results:

Twelve predictors correctly classified 80% of patients into depressed or non depressed groups. The strongest predictors of depression were high tension and low self-esteem followed by the perceived impact of RA, fatigue, passive coping, pain, and physical disability. Other predictors included medication effectiveness and importance as well as perceived lack of control over pain.

Conclusion:

Both physical and psychological factors have an impact on depression in RA. The key predictors identified in this study need to be considered within the regular RA management as possible cues to depression development.

2.3.8 Role of Depression in the Production of Illness in Pernicious Anemia

Karl kayalewin & et.al (2006)

A pilot study in ten patients with pernicious anemia revealed a common denominator of depression and recent loss prior to the onset of illness. There was no

evidence of a paranoid core to these patients' personalities. This is contrary to classical descriptions.

It is suggested that depression itself may be an etiologic factor in the production of pernicious anemia by reducing intrinsic factor below the critical level required for normal erythropoiesis. A genetic factor leaves certain people prone to such events.

It is urged that the physiology of depression be worked out, as has that for stress and anxiety. It is further suggested that depression be more fully described psychologically.

2.3.9 Are alexithymia, depression, and anxiety distinct constructs in affective disorders?

C, Marchesi & E, Brusamonti (2007)

Objective:

The present study was undertaken to gain a better insight into the relationship between alexithymia, anxiety, and depression. Two hypotheses were tested: (1) whether a depressive or anxiety disorder is associated with an elevation of one or more dimensions of alexithymia; and (2) whether alexithymia is an independent construct from depression and anxiety in patients with depressive or anxiety disorders.

Method:

A total of 113 patients with depressive or anxiety disorders (DSM-IV) and 113 control subjects completed the 20-item version of the Toronto alexithymia scale (TAS-20) and the hospital anxiety and depression scale (HADS).

Results:

The TAS-20 total score was higher in depressed and anxious patients than in controls. This finding mainly depended on an increased score for “difficulty identifying feelings”(DIF), and (only in depressed patients) on an increased score for “difficulty communicating feelings” (DCF). The factor analysis of the TAS-20 and HADS items showed that depression is a construct different from alexithymia, whereas some overlap exists between anxiety and DIF dimension.

2.3.10 A study of Depression and Type D personality between psychosomatic male and female

Herachi, S.H, (2009)

Purpose:

A study of Depression and Type D personality (negative affectivity and social inhibition) between psychosomatic male and female

Method:

In this research two test were administrated individually as well as on male and female of psychosomatic dieses people, while collecting data for the study before attempting the questionnaire. In a representative sample of 400 individuals. Type D was assessed with the Gujarati version for Dennollet Type D Scale-14 and Depression assessed for Lonard and Deragreties scale.

Conclusion:

There is significance difference for male and female between Negative affectivity and social inhibition (Type D personality), and also a significance difference between male and female on Depression.

2.3.11 A study of Depression and Type D personality between psychosomatic patients and Normal people.

Thomas,S,R,(2009)

Purpose:

A study of Depression and Type D personality (negative affectivity and social inhibition) between psychosomatic patients and Normal people.

Method:

In this research two test were administrated individually as well as on male and female of psychosomatic people and Normal people, while collecting data for the study before attempting the questionnaire. In a representative sample of 750 individuals.

Depression assessed for Lonard and Deragreties scale and Type D was assessed with the Gujarati version for Dennollet Type D Scale-14.

Conclusion:

There is significance difference between psychosomatic patients and Normal people on Depression and there is significance difference for psychosomatic patients and Normal people on Type d personality. There is also significance difference between male and female on Depression and type d personality.

2.3.12 Gender, Poverty, and Postnatal Depression: A Study of Mothers in Goa, India

Vikram Patel, et. al. (2002)

Objective :

This study described the natural history of depression in mothers who recently gave birth in a low-income country and to investigate the effect of risk factors, particularly related to infant gender bias, on the occurrence and outcome of depression.

Method :

The authors studied a group of pregnant mothers recruited during their third trimester of pregnancy from a district hospital in Goa, India. The mothers were interviewed at recruitment, 6–8 weeks, and 6 months after childbirth. Interview data included presence of antenatal and postnatal depression, obstetric history, economic and demographic characteristics, and gender-based variables (preference for male infant, presence of marital violence).

Results :

Depressive disorder was detected in 59 (23%) of the mothers at 6–8 weeks after childbirth; 78% of these patients had had clinically substantial psychological morbidity during the antenatal period. More than one-half of the patients remained ill at 6 months after delivery. Economic deprivation and poor marital relationships were important risk factors for the occurrence and chronicity of depression. The gender of the infant was a determinant of postnatal depression; it modified the effect of other risk factors, such as

marital violence and hunger. Depressed mothers were more disabled and were more likely to use health services than non depressed mothers.

Conclusions :

Maternal and infant health policies, a priority in low-income countries, must integrate maternal depression as a disorder of public health significance. Interventions should target mothers in the antenatal period and incorporate a strong gender-based component.

2.3.13 Post-partum depression in a cohort of women from a rural area of Tamil Nadu, India

MANI CHANDRAN & PRATHAP THARYAN(2007)

Background

Community-based epidemiological data on post-partum depression from developing countries are scarce.

Aims

To determine the incidence of and risk factors for developing post-partum depression in a cohort of women living in rural south India.

Method

We assessed 359 women in the last trimester of pregnancy and 6-12 weeks after delivery for depression and for putative risk factors.

Results

The incidence of post-partum depression was 11% (95% CI 7.1-14.9). Low income, birth of a daughter when a son was desired, relationship difficulties with mother-in-law and parents, adverse life events during pregnancy and lack of physical help were risk factors for the onset of post-partum depression.

Conclusions

Depression occurred as frequently during late pregnancy and after delivery as in developed countries, but there were cultural differences in risk factors. These findings have implications for policies regarding maternal and childcare programmes.

2.3.14 Effective treatment of perinatal depression for women in debt and lacking financial empowerment in a low-income country

Atif Rahman & et.al.(2012)

Background

Poverty may moderate the effect of treatment of depression in low-income countries.

Aims

To assess poverty and lack of empowerment as moderators of a cognitive-behavioural therapy (CBT)-based intervention for perinatal depression in rural Pakistan.

Method

Using secondary analysis of data from a randomized controlled. We identified predictors of depression at 1-year follow-up and moderators of the intervention ($n = 791$).

Results

Predictors of follow-up depression included household debt, the participant not being empowered to manage household finance and the interaction terms for these variables with the trial arm. Effect sizes for women with and without household debt were 0.80 and 0.55 respectively. The effect size for women in debt and not empowered financially was 0.94 compared with 0.50 for women with neither of these factors.

Conclusions

Our findings demonstrate the importance of household debt and lack of financial empowerment of women as important maintaining factors of depression in low-income countries and our locally developed intervention tackled these problems successfully.

2.3.15 Idioms of distress: Alternatives in the expression of psychosocial distress: A case study from South India

Mark nitcher & et.al.(2001)

This paper focuses attention on alternative modes of expressing distress and the need to analyze particular manifestations of distress in relation to personal and cultural meaning complexes as well as the availability and social implications of coexisting idioms of expression. To illustrate this point the case of South Kanarese Havik Brahmin women is presented. These women are described as having a weak social support network and limited opportunities to ventilate feelings and seek counsel outside the household. Alternative means of expressing psychosocial distress resorted to by Havik women are discussed in relation to associated Brahminic values, norms and stereotypes. Somatization is focused upon as an important idiom through which distress is communicated. Idioms of distress more peripheral to the personal or cultural behavioral repertoire of Havik women are considered as adaptive responses in circumstances where other modes of expression fail to communicate distress adequately or provide appropriate coping strategies. The importance of an 'idioms of distress' approach to psychiatric evaluation are noted.

2.4. A Review of Relevant literature Ego strength study:

2.4.1 Ego strength and psychosocial adaptation to cancer.

W Worden & H J Sobel (2006)

This study investigated a patient's ego strength (Es) at the time of an initial cancer diagnosis and its relationship, over time, to mood disturbance, vulnerability, self-reported physical symptom totals, current concerns, coping strategies, and effectiveness in the resolution of problems. The subjects were 163 newly diagnosed male and female cancer patients representing five primary tumor sites. All patients were seen for an initial evaluation, at which time they completed Barron's Es scale, the Profile of Mood States, the Inventory of Current Concerns, and a semi structured interview. Ratings on patient vulnerability, coping strategies, and problem resolutions were made at each of the five follow-ups. Results showed that psychosocial adaptation to cancer was related to a patient's ego strength. Es correlated positively with a patient's use of effective coping

strategies. The concept of Es and problems with Es assessment were discussed within a cognitive-ego analytic frame of reference

2.4.2 How gaining knowledge and awareness of ego strength will assist teachers in understanding learners better

L.A.Sanday &et.al.(2012)

This article gives a historical overview of the development as well as the current usage of the term ego strength. The factors involved in the development of ego strength, the impact of ego strength on learners and the necessity for teachers' awareness are discussed. A combined quantitative-qualitative research design was followed, where a group of 110 learners were tested for ego strength in order to establish the general ego strength among young adolescents. Two case studies were conducted: one of a learner with high ego strength and the other of a learner with low ego strength, in order to establish their experience of themselves in their relationships. More or less a third of the group had a low ego and superego strength. In the light of the impact of low ego strength on the classroom situation and the importance of ego development for learning necessary life skills, we provided guidelines for teachers regarding ego development as a fundamental aspect in childhood development. We contend that in teacher training more attention should be given to ego development in young children, not only for the sake of an organized classroom but for the intellectual, emotional and social development of learners.

2.4.3 Concept of ego strength in psychotherapy

B Lake & et al.(2009)

The concept is discussed of how ego strength and equivalent dimensions of the term have been developed by well known contributors to psychotherapeutic literature and theory. A case is made for the translation of these dimensions, which include motivation and psychological mindedness, into operational terms and into items which are descriptive of the notion of personal and social competence. This has been done to provide guidelines for the assessment of patients for an optimal psychotherapy. A rationale for the inclusion for each item is constructed from the observations of experienced psychotherapists and research workers.

2.4.4 Ego Strength Development of Adolescents Involved in Adult-Sponsored Structured Activities

C.A.Markstrom & et.al.(2005)

A psychosocial conception of ego strengths is presented in relation to adolescent involvement in adult-sponsored structured youth activities. Five-hundred and seventeen high school students completed measures on their involvement in structured activities and on 8 ego strengths. Gender, age, and SES were controlled in a MANCOVA procedure and it was found that extracurricular activities of sports, student government, and belonging to an issues group, as well as engagement in volunteerism were related to several of the ego strengths. Religious attendance was not related to the ego strengths. In longitudinal analysis, it was shown that ego strength at Time 1 predicted involvement in structured activities at Time 2 (8 months later), but structured activities at Time 1 did not predict ego strength at Time 2. The findings are discussed relative to theory and research findings on the topic.

2.4.5 The Investigation between psychosomatic patients and normal people on Ego strength

Waugh,L,V,(2010)

Purpose:

The Investigation between psychosomatic patients and normal people on Ego strength and also find out mean different between male and female on Ego strength.

Method:

In this research Ego strength test were administrated individually as well as on male and female of psychosomatic people and Normal people, in a representative sample of 540 individuals. Ego strength assessed for Q-Hussen Ego strength questionnaire.

Conclusion:

There is significance difference between psychosomatic patients and Normal people on Ego strength and there is also significance difference between male and female on Ego strength.

2.4.6 Ego strength and body image in Psychosomatic Diseases to anorexia nervosa

Christie,M,J, & Wingate,B,A(2008)

Ego strength was measured by the E_s scale of the MMPI, and body image by the pencil and paper method of Askevold. A group of 15 female anorexic patients had a significantly lowered mean E_s when compared with a normal control group. The patients' overestimation of body width at shoulders, waist and hips was significantly different from the normal group; ρ values for E_s /body image perception indices were significant in the patient group. Comparisons of E_s and body image with a second control group having a low mean E_s score produced mixed results: subdivision of this normal group into subgroups having higher/lower mean body weight produced two patterns of data; with the lower body weight subjects' data resembles that of the anorexic patients.

2.4.7 Inner Strength and other Techniques for Ego Strengthening

Shirley McNeal & Claire Frederick (2011)

For most therapists who employ **hypnoanalytic techniques**, ego strengthening stands as the bedrock upon which other techniques are structured. Much ego strengthening takes place indirectly, and its effects are often perceived as improved therapeutic alliance, heightened insight, increased clarity of thinking, and/or improved self-esteem on the part of the patient. Since Hartland introduced ego-strengthening techniques, most therapists have placed emphasis on formal ego-strengthening procedures, both sentences and visualizations. More recently age-progression procedures have been used for ego strengthening. In this paper we introduce the concept of "Inner Strength" as a helpful ego state, and we review three ways of helping the patient get in touch with inner resources in a way that strengthens the ego. We discuss relevant cases and present the appropriate scripts provided for implementing these techniques.

2.4.8 On the limits of the Effectiveness of Psychoanalysis: Early Ego and psychosomatic Disturbances

Willson,P,C,(2012)

Sylvan Keiser, the panel chairman, pointed out in his introductory remarks that the title of the panel was not intended to be understood as pejorative or constricting. He emphasized that it is not possible to provide a sharply demarcated border beyond which psychoanalysis cannot be effective as a therapy or an investigative process. Such questions arise as: What are the different criteria for evaluating "limitations" of **analysis**? Which patients need a preparatory **phase** of **psychotherapy**? **Other** problems which can effect psychic growth include external and internal deviations from an average psychological **environment**, congenital or acquired disabilities, and prolonged somatic or life-threatening illnesses in **childhood**. The panel approached these **complex** problems by presenting projects that originated in various frames of reference which were, in turn, discussed by the **other** panelists.

2.4.9 A study of Ego strength and Aggressiveness of differential religion people

Rana,S,M,(2009)

Purpose:

A study of Ego strength and Aggressiveness of differential religion people and also find out mean different between male and female on Ego strength.

Method:

In this research Ego strength test were administrated individually as well as on male and female of differential religion people, in a representative sample of 240 individuals. Ego strength assessed for Q-Hussen Ego strength questionnaire.

Conclusion:

There is significance difference between differential religion people on Ego strength and there is also significance difference between male and female on Ego strength. The male mean score was higher then female mean score.

2.4.10 Effect of occupational stress and ego-strength on the job involvement of first-level industrial supervisors.

Singh, A. P.; Mishra, P. C.(2012)

Examines the influence of personality and attitudinal variables on the job involvement (JI) of low-level supervisors based on the hypothesis that occupational stress (OS) and ego-strength (ES) differences would not affect the degree of JI. 100 supervisors were administered scales measuring JI, ES, and OS. Results indicate a positive but non significant relationship between JI and OS. JI and ES had a negative relationship, as was the case for OS and ES. Although the findings support the proposed hypothesis, they are inconsistent with the findings of other studies. Results from other studies and reasons for the differences between them and those of the present study are discussed.

Chapter-3

Methodology

Chapter-3 Methodology

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3.1 Introduction:

Any research starts with curiosities and many questions about a give phenomenon or set of phenomena. Systematic attempt are made to explore, analyzed and understand the issues to under question through suitable conceptual and methodological tools.

This section brings out explicitly how the research work has been carried out and which population is considered for the study, what sampling methods were under taken for the study, how the independent variables are measured and how the data is collected for the research work. The process of inquiry and analytical tools a great extent relative to the specific domain of the concern and conceptual, methodology, heuristic and programmatic goals of the research.

3.2 Research problem:

**“A STUDY OF TYPE D PERSONALITY, DEPRESSION AND EGO STRENGTH
AMONG PSYCHOSOMATIC DISEASES PATIENTS
AND NORMAL PEOPLE”**

3.3 Objectives of the study:

The following Objectives were formulated on the basis of the study;

1. To find out significant difference for Type of people, Sex, Area and the respondents socio personal variables and their Type D personality scores.
2. To find out significant difference for Type of people, Sex, Area and the respondents socio personal variables and their Depression scores.
3. To find out significant difference for Type of people, Sex, Area and the respondents socio personal variables and their Ego strength scores.
4. To find out significant difference based on interaction for Type of people, Sex, Area and the respondents socio personal variables and their Type D personality scores.
5. To find out significant difference based on interaction for Type of people, Sex, Area and the respondents socio personal variables and their Depression scores.

6. To find out significant difference based on interaction for Type of people, Sex, Area and the respondents socio personal variables and their Ego strength scores.
7. To see correlation (Karl-Pearson r technique) for the respondents three variables. (e.g. Type D personality, Depression & Ego strength)
8. To suggest steps for improvement of Ego strength & personality of the respondents.
9. To indicate ways for Depression controls of the respondents.

3.4 Hypotheses of the study:

The following Hypotheses were constructed on the basis of the study;

1. There is no significance difference of Type D personality based on Type of people variables.
2. There is no significance difference of Type D personality based on Sex variables.
3. There is no significance difference of Type D personality based on Area variables.
4. There is no significance difference of Type D personality based on Social economics status variables.
5. There is no significance difference of Type D personality based on Interaction for type of people and Sex variables.
6. There is no significance difference of Type D personality based on Interaction for type of people and Area variables.
7. There is no significance difference of Type D personality based on Interaction for type of people and social economic status variables.
8. There is no significance difference of Type D personality based on Interaction for Sex and Area variables.
9. There is no significance difference of Type D personality based on Interaction for Sex and social economic status variables.

10. There is no significance difference of Type D personality based on Interaction for Area and social economic status variables.
11. There is no significance difference of Type D personality based on Interaction for Type of people, Sex and Area variables.
12. There is no significance difference of Type D personality based on Interaction for Type of people, Sex and Social economic status variables.
13. There is no significance difference of Type D personality based on Interaction for Sex, Area and Social economic status variables.
14. There is no significance difference of Type D personality based on Interaction for Type of people, Area and Social economic status variables.
15. There is no significance difference of Type D personality based on Interaction for Type of people, Sex, Area and Social economic status variables.
16. There is no significance mean difference of Type D personality based on Type of Family variables.
17. There is no significance mean difference of Type D personality based on Type of Income variables.
18. There is no significance difference of Depression based on Type of people variables
19. There is no significance difference of Depression based on Sex variables.
20. There is no significance difference of Depression based on Area variables.
21. There is no significance difference of Depression based on Social economics status variables
22. There is no significance difference of Depression based on Interaction for Type of people and Sex variables.
23. There is no significance difference of Depression based on Interaction for Type of people and Area variables.

24. There is no significance difference of Depression based on Interaction for Type of people and social economic status variables.
25. There is no significance difference of Depression based on Interaction for Sex and Area variables.
26. There is no significance difference of Depression based on Interaction for Sex and social economic status variables.
27. There is no significance difference of Depression based on Interaction for Area and social economic status variables.
28. There is no significance difference of Depression based on Interaction for Type of people, Sex and Area variables.
29. There is no significance difference of Depression based on Interaction for Type of people, Sex and Social economic status variables.
30. There is no significance difference of Depression based on Interaction for Sex, Area and Social economic status variables.
31. There is no significance difference of Depression based on Interaction for Type of people, Area and Social economic status variables.
32. There is no significance difference of Depression based on Interaction for Type of people, Sex, Area and Social economic status variables.
33. There is no significance mean difference of Depression based on Type of Family variables.
34. There is no significance mean difference of Depression based on Type of Income variables.
35. There is no significance difference of Ego strength based on Type of people variables
36. There is no significance difference of Ego strength based on Sex variables
37. There is no significance difference of Ego strength based on Area variables.

38. There is no significance difference of Ego strength based on Social economics status variables.
39. There is no significance difference of Ego strength based on Interaction for Type of people and Sex variables.
40. There is no significance difference of Ego strength based on Interaction for Type of people and Area variables.
41. There is no significance difference of Ego strength based on Interaction for Type of people and social economic status variables.
42. There is no significance difference of Ego strength based on Interaction for Sex and Area variables.
43. There is no significance difference of Ego strength based on Interaction for Sex and social economic status variables.
44. There is no significance difference of Ego strength based on Interaction for Area and social economic status variables.
45. There is no significance difference of Ego strength based on Interaction for Type of people, Sex and Area variables.
46. There is no significance difference of Ego strength based on Interaction for Type of people, Sex and Social economic status variables.
47. There is no significance difference of Ego strength based on Interaction for Sex, Area and Social economic status variables.
48. There is no significance difference of Ego strength based on Interaction for Type of people, Area and Social economic status variables.
49. There is no significance difference of Ego strength based on Interaction for Type of people, Sex, Area and Social economic status variables.
50. There is no significance mean difference of Ego strength based on Type of Family variables.

51. There is no significance mean difference of Ego strength based on Type of Income variables.
52. There is no Correlation between Type D personality and Depression.
53. There is no Correlation between Type D personality and Ego strength.
54. There is no Correlation between Depression and Ego strength.

3.5 Research Variables:

The following Research Variables were selected on the basis of the study which is as follows.

3.5.1 Independent Variables: In present research total four independent variables are as under

- A) **Type of people:** Psychosomatic people = **A₁** Normal people = **A₂**
- B) **Sex :** Male = **B₁** Female = **B₂**
- C) **Area :** Rural = **C₁** Urban = **C₂**
- D) **Socio economic Status (S.E.S.) :** High = **D₁** Medium = **D₂** Low = **D₃**

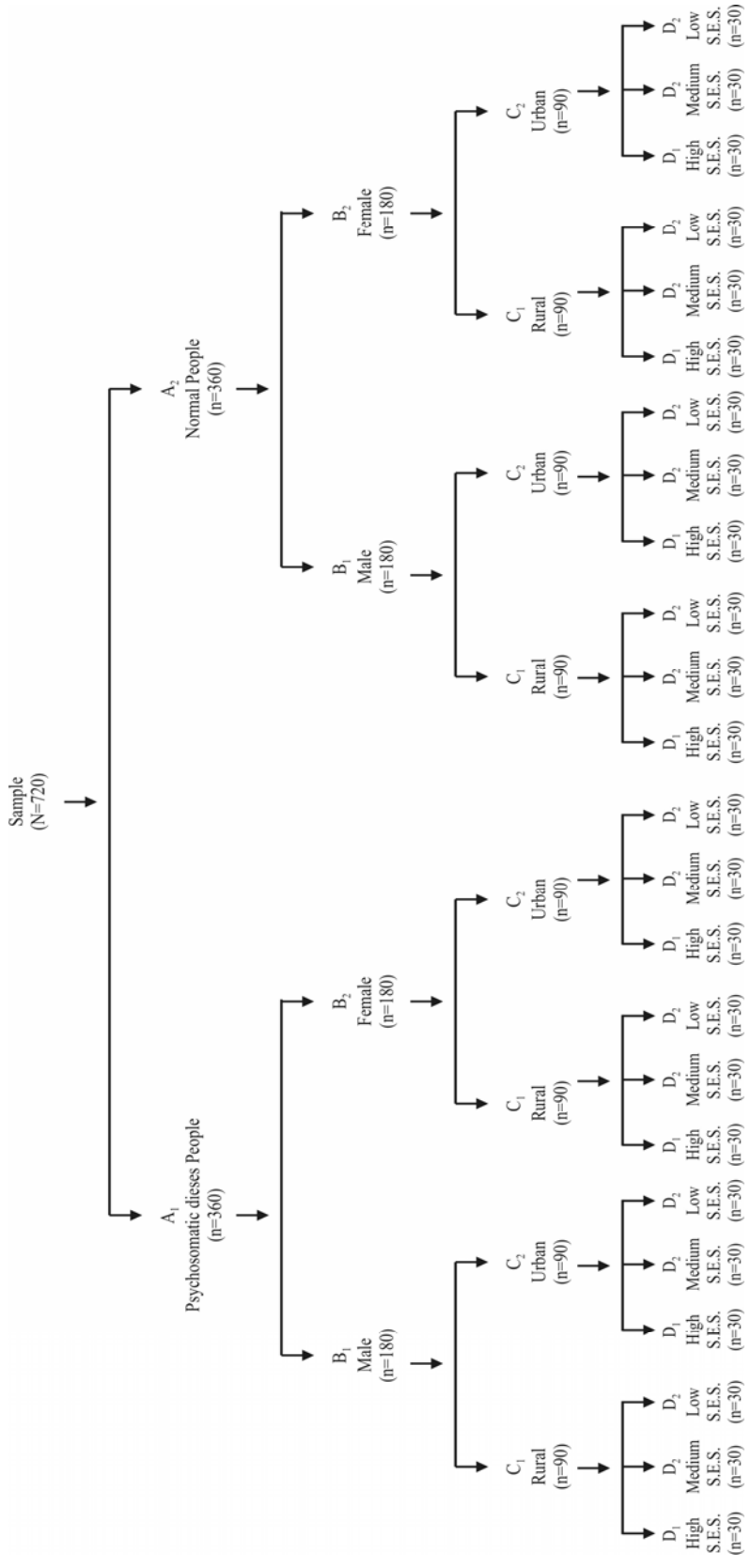
3.5.2 Dependent variables:

A total score of Type D personality, Depression and Ego strength are relying on Questionnaires.

- 1) Type D personality score
- 2) Depression score
- 3) Ego strength score

3.6 Research Design:

In present study to check the main and internal effect of variables to collect the data as **2x2x2x3 factorial designed**. To make the research Design are as under :



3.7 Research sample:

The respondents of present study shall be 720 Subjects, total 980 data fill up from different areas & hospitals, in which randomly selected 720 data from different areas (e.g. Surendranagar, Rajkot, Ahemdabad, Anjar, Bhuj, Gandhidham, Junagadh, Gondal etc.) & different hospitals (e.g. Pandit din dayal hospital Rajkot, C.J.hospital, Surendranagar, C.U.shah medicale college & hospital, Surendranagar, civil hospital, Bhuj etc.) from Gujarat state. The total sample consisting of **720** Subjects out which **360** are psycho somatic patients, **360** are Normal people. In subjects of **360** out of which **180** are male and **180** are female. In subjects of **180** out of which **90** are rural people and **90** are urban people and then in subjects of **90** out of which **30** are High social economic status people, **30** are Medium social economic status people and **30** are Low social economic status people.

3.8 Research Tools:

For this purpose the following test tools were considered with their reliability, validity and objectivity mentioned in their respective manuals. In present study three (03) Inventories used in this research.

3.8.1 Personal data sheet:

In this research personal data sheet is preparing to collect some personal information such as Type of people, Sex, Area, Social economic status, Type of diseases, Age, Income, etc.

3.8.2 Type-D personality scale:

In present study Type-D personality scale was developed by **Denollet J (2005)**. The Gujarati version of this scale construct by **Krushansinh. J. Zala** and **Dr.Yogesh A. Jogsan** was used in this research. The scale consists of **14 items** with **5 alternative responses**, varying form ‘**strongly agree**’ to ‘**strongly disagree**’ each to be rated on the **five point scale**. This scale asses of two personality traits that’s **Negative affectivity and Social inhibition** (Type D personality= Negative affectivity+ Social inhibition) also. The maximum and minimum score obtained in this scale are **56** and **0** respectively; this scale validity and reliability are found very high.

3.8.2.1 Reliability for Type-D personality scale:

The Reliability for Type-D personality scale was established by Denollet. He has done standard Assessment of Negative Affectivity (N. A.), social Inhibition (S.I.), (Type d personality). Type D scales were internally consistent $\alpha = 0.86$ to 0.88 ; $N=3678$, stable over a 3 month period, test re-test Reliability ($r=0.72$ to 0.82)., we know that this Reliability is established by the author their environment and situation and culture also, so anyone researcher use this scale they are established new Reliability and validity. So here used the Gujarati version of the scale was developed by Krushansinh.J.Zala and Dr.Yogesh.A.Jogsan. Hence, the new Reliability found by the author is Type D scales were internally consistent $\alpha = 0.82$ to 0.89 ; $N=240$, stable over a 2 month period, test –re test Reliability= 0.78 to 0.87 .

3.8.2.2 Validity for Type-D personality scale:

The Validity for Type-D personality scale was established by Denollet. Ha has established internal validity and construct validity also. The internal consistent validity $\alpha = 0.86$ to 0.88 ; $N=3678$, and construct validity is subjects from the general population, S.I. and N.A. correlated $r = -0.59$ and $r=0.68$ with extraversion and neuroticism respectively, and second order **factor analysis** of scale scores indicated that S.I. (0.83)/Extraversion (0.84) and N.A. (0.86)/neuroticism (0.85) represented major personality domain, which corroborated the construct validity of the **DS14**. The validity of type d personality (Gujarati version scale) is **factor analysis** of scale scores indicated that S.I. (0.89) and N.A. (0.92) respectively. So the represented major personality domain in the validity for **DS14**.

3.8.2.3 Scoring and Interpretation for Type D personality scale:

In the present study, measurement of Type D personality for psychosomatic patients and Normal people to used Type D personality scale was developed by **Denollet.J.**

The scale consists of **14 items** with **5 alternative responses** varying form ‘Strongly Agree’ to ‘Strongly Disagree’ each to be rated on the **five point**

scale ranging from 4= **Strongly Agree**, 3= **Agree**, 2= **Neutral**, 1= **Disagree**, 0= **Strongly disagree**. This scale assesses two personality traits that's **Negative affectivity and Social inhibition** (Type D personality= Negative affectivity+ Social inhibition) also.

The maximum and minimum score obtained in this scale are **56** and **0** respectively. The Item no. **2, 4, 5, 7, 9, 12, 13** are measurement for **Negative affectivity** and The Item no. **1, 3, 6, 8, 10, 11, 14** are measurement for **Social inhibition**. The Negative affectivity and Social inhibition scales can be used as continuous variables to assess each to these two personality traits in their own right. Scores on both scales range from **0-28**.

Interpretation of Raw scores –General population (N=2508) that the following table can be used for the Negative affectivity and Social inhibition scales, This Interpretation differs for men and women regarding Negative affectivity and Social inhibition.

Negative Affectivity	Mean (S.D.)	Very Low	Low	Below Average	Average	Above Average	High	Very High
Male (N=1235)	6.3 (5.3)	0	1	2-3	4-6	7-10	11-16	17-28
Female (N=1273)	18.00 (5.6)	0	1-2	3-5	6-8	9-12	13-18	18-28

Social Inhibition	Mean (S.D.)	Very Low	Low	Below Average	Average	Above Average	High	Very High
Male (N=1235)	10.20 (6.60)	0	1-3	4-7	8-11	12-15	16-21	22-28
Female (N=1273)	9.70 (6.2)	0	1-3	4-7	8-11	12-15	16-21	22-28

NOTE: All over Assessment of Type D personality: With Reference to assessment of Type D personality, score of 10 is the cut-off for both scales (**10+10=20**). Subjects are

classified as Type D if Both Negative Affectivity is Greater than or equal to 10 and Social inhibition is greater than or equal to 10.

3.8.3 Depression Scale:

Lonard R. & Deragratis was developed for depression scale. The scale consists of **23** items with **5 alternative response** various form ‘**strongly agree**’ to ‘**strongly disagree**’, each to be rated on the **five points scale**. The maximum and minimum score obtained in the scale are **92** to **0** respectively. This scale reliability and validity are found very high.

3.8.3.1 Reliability for Depression scale:

The Reliability for Depression scale was established by Lonard R. & Deragratis. This scale was used in different area for clinical by clinical psychologists and psychiatrists. The author established test re-test Reliability is **0.77** (N=170).

3.8.3.2 Validity for Depression scale:

The Validity for Depression scale was established by Lonard R. & Deragratis. They founded the validity for the scale was seen very high. To compare correlation (**r**) from others Depression scales, that the result was founded that the correlation was seen very high.

3.8.3.3 Scoring and Interpretation for Depression scale:

In the present study, measurement of Depression for psychosomatic patients and Normal people to used Depression scale was developed by Lonard R. & Deragratis.

The scale consists of **23 items** with **5 alternative responses** varying form ‘**Strongly Agree**’ to ‘**Strongly Disagree**’ each to be rated on the **five point scale** ranging from **5= Strongly Agree**, **4= Agree**, **3= Neutral**, **2= Disagree**, **1= Strongly disagree**. The maximum and minimum score obtained in this scale are **92** and **0** respectively.

3.8.4 Ego strength Scale:

In present study Ego strength scale was developed by **Q.Hasan**. The Gujarati version of the scale was developed by Jogsan.Y.A. The scale consists of **32** items with only **1 alternative response**, either **true** or **false**. The maximum and minimum score obtained in this scale are **32** and **0** respectively; this scale validity and reliability are found very high.

3.8.4.1 Reliability for Ego strength scale:

The Reliability for Ego strength scale was established by Q, Hasan. The Ego strength scale inters rater Reliability is **0.78**. The period from 2 to 5 weeks after test re-test Reliability was seen **0.82 to 0.86**.

3.8.4.2 Validity for Ego strength scale:

The Validity for Ego strength scale was established by Q, Hasan. They founded the validity for the scale was seen very high. To compare correlation (**r**) from others Ego strength scales, that the result was founded that the correlation was seen very high. To getting some positive result for Ego strength scale and founded validity by Stain & Chain, Lee (1967).

3.8.4.3 Scoring and Interpretation for Ego strength scale:

In the present study, measurement of Ego strength for psychosomatic patients and Normal people to used Ego strength scale was developed by Hassan. The scale consists of **32 items** with only **1** alternative response from **true or false**. The maximum and minimum score obtained in this scale are **32** and **0** respectively.

3.9 Statistical Frame work for the study:

The respondents of present study shall be 720 Subjects, randomly selected from different hospitals and areas of Saurashtra, Zalawad and Kutchh of Gujarat state. So collect the Data as **2 x 2 x 2 x 3 factorial designed**. After then collect the Data to choose some Statistical Technique for Interpretation of the results. Here that used the **F'** test **ANOVA** was applied to check significance difference of main and internal effect of psychosomatic people and Normal people also use the **L.S.D.** (least significance difference) was used to

check significance difference of main and internal interaction of psychosomatic people and Normal people, *t* test was applied to check significance mean difference between type of income variable and type of family variable and then ‘*r*’ was used to check the correlation of Type D personality, Depression and Ego strength.

3.9.1 F-Test

An **F-test** is any statistical test in which the test statistic has an F-distribution under the null hypothesis. It is most often used when comparing statistical models that have been fitted to a data set, in order to identify the model that best fits the population from which the data were sampled. Exact *F-tests* mainly arise when the models have been fitted to the data using least squares. The name was coined by **George W. Snedecor**, in honors of **Ronald A. Fisher**. Fisher initially developed the statistic as the variance ratio in the **1920s**. The hypothesis that the means of several normally distributed populations, all having the same standard deviation, is equal. This is perhaps the best-known F-test, and plays an important role in the analysis of variance (ANOVA).

The hypothesis that a proposed regression model fits the data well. See Lack-of-fit sum of squares. The hypothesis that a data set in a regression analysis follows the simpler of two proposed linear models that are nested within each other.

The F-test in one-way analysis of variance is used to assess whether the expected values of a quantitative variable within several pre-defined groups differ from each other. For example, suppose that a medical trial compares four treatments. The ANOVA F-test can be used to assess whether any of the treatments is on average superior, or inferior, to the others versus the null hypothesis that all four treatments yield the same mean response. This is an example of an "omnibus" test, meaning that a single test is performed to detect any of several possible differences. Alternatively, we could carry out pair wise tests the treatments (for instance, in the medical trial example with four treatments we could carry out six tests among pairs of treatments).

The advantage of the ANOVA F-test is that we do not need to pre-specify which treatments are to be compared, and we do not need to adjust for making multiple comparisons. The disadvantage of the ANOVA F-test is that if we reject the null hypothesis, we do not know which treatments can be said to be significantly different

from the others, if the F-test formed at level α we cannot state that the treatment pair with the greatest mean difference is significantly different at level α .

The formula for the one-way ANOVA F-test statistic is

$$F = \text{Explained variance} / \text{UN Explained variance}$$

Or

$$F = \text{between grupe variability} / \text{within grupe variability}$$

3.9.2 Least significant difference (L.S.D.)

Fisher's LSD is a method for comparing treatment group means after The ANOVA null Hypothesis of equal means has been rejected using the ANOVA F-test. If the F-test fails to reject the null hypothesis procedure should not be used. Note that L.S.D. has more power compared to other post-hoc comparison methods.

3.9.3 t-test:

The simple answer of t-test is t-test is the statistical test used to find the difference of mean between two groups. A statistical test involving means of normal populations with unknown standard deviations; small samples are used, based on a variable 't' equal to the difference between the mean of the sample and the mean of the population divided by a result obtained by dividing the standard deviation of the sample by the square root of the number of individuals in the sample.

3.9.4 Correlation(r):

The correlation is one of the most common and most useful statistics. The most familiar measure of dependence between two quantities is the Pearson product-moment correlation coefficient, or "Pearson's correlation." It is obtained by dividing the covariance of the two variables by the product of their standard deviations. **Karl Pearson** developed the coefficient from a similar but slightly different idea by **Francis Galton**. A correlation is a single number that describes the degree of relationship between two variables. Correlation coefficient a numerical value that indicates the degree and direction of relationship between two variables. The coefficients range in value from **+1.00** (perfect

positive relationship) to **0.00** (no relationship) to **-1.00** (perfect negative or inverse relationship)

3.10 The Data collection:

This section brings out the various organizations in which the study was undertaken and under which guidance the study was authorized. Saurashtra University, Dept of Psychology, Rajkot authenticated the research work and under the guidance of **Dr. T. L. Zalawadia**, The clinical practice and Data collection for psycho somatic patients under the guidance was undertaken with the help of **Dr. Mukesh Patel, Dr. Samani**, and other Doctors.

The respondents of present study shall be 720 Subjects, total 980 data fill up from different areas & hospitals, in which randomly selected 720 data from different areas (e.g. Surendranagar, Rajkot, Ahemdabad, Anjar, Bhuj, Gandhidham, Junagadh, Gondal etc.) & different hospitals (e.g. Pandit din dayal hospital Rajkot, C.J.hospital, Surendranagar, C.U.shah medicale college & hosp[ital, Surendranagar, civil hospital, Bhuj etc.) from Gujarat state.

Population of general category from the Saurashtra, surendranagar, Kutch etc. region and also population of various organizations working in this region have been considered for the study. The group was randomly selected by administering the testing inventories. The library of **Saurashtra University, The library of Gujarat University, the Library of Surendranagar, Rajkot, M.B.College (Gondal)**, have largely benefited in collection of the historical evidences of Psychology. The government hospital of Rajkot, government hospital of Surendranagar was very helpful to collect the data. So the process of the data collection as follows;

The aim of present study was type D personality, Depression and Ego strength among psychosomatic patients and Normal people. For this purpose the following test tools were considered with their reliability, validity and objectivity mentioned in their respective manuals. The present study three (03) Inventories used in this research. Here used to collect the data for Type D personality, the scale for Type D personality was developed by Denollet.J used in this research. Used to collect the data for Depression, the scale for Depression was developed by Lonard R. & Deragraties used in this research and

Used to collect the data for Ego strength; the scale for Ego strength was developed by Hassen used in this research. So here the respondents of present study shall be **720** Subjects, randomly selected from different hospitals and areas of Saurashtra, Zalawad and Kutchh of Gujarat state. The total sample consisting of **720** Subjects out which **360** are **psycho somatic patients**, **360** are **Normal people**. In subjects of **360** out of which **180** are **male** and **180** are **female**. In subjects of **180** out of which **90** are **rural people** and **90** are **urban people** and then in subjects of **90** out of which **30** are **High social economic status** people, **30** are **Medium social economic status** people and **30** are **Low social economic status** people were taken for this study.

Chapter-4
Result, Discussion
and
Interpretation

Chapter-4
Result, Discussion and Interpretation

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4.1 Introduction:

This section brings out the analysis technique used by the investigator and the interpretation of the results obtained. This section brings out the Suggestion for improvement for further research work in the similar field. In the previous chapter the sample, design, hypothesis, different tool are used, method of administration of the tool and the statistical analysis were described. The result of the present study will be presented, interpreted and discussed in this chapter .In order to test various hypotheses put forward the following analysis was carried out.

4.2 Percentages Tabulations of Research Data:

The aim of present research was ‘**A study of type d personality, Depression and ego strength between psychosomatic patients and Normal people**’ so; Here according to sample have been selected from **2 x 2 x 2 x 3 research design**. Hence we show the Distribution of different samples as under;

4.2.1 The percentage wise distribution for total research sample:

Table 4.1

The percentage wise distribution for Type of people variables

No.	Name of Variables	N	Percentage
1	Psychosomatic patients	360	50%
2	Normal people	360	50%
3	Total	720	100%

The respondents of present study shall be **720** samples, which **360** are psychosomatic dieses people and **360** are Normal people. So we have said that the respondents of present study shall be **720** samples, out of which **50%** samples was Psychosomatic patients and **50%** samples was Normal people were taken.

4.2.2 The percentage wise distribution for family variables:

Table 4.2

The percentage wise distribution for family variables

No.	Variables (Type of family)	N	Percentage
1	Joint family	428	59.44%
2	Divided family	292	40.56%
3	Total	720	100%

The respondents of present study shall be **720** samples, which **428** are joint family people and **292** are divided family people. So we have said that the respondents of present study shall be **720** samples, out of which **59.44%** samples was joint family people and **40.56%** samples was Divided family people were taken.

4.2.2 The percentage wise distribution for Income variables:

Table 4.3

The percentage wise distribution for income variables

No.	Variables (Type of income in Rs.)	N	Percentage
1	50000 to 300000	220	53.66%
2	300001 to 550000	190	46.34%
3	Total	410	100%

The respondents of present study shall be **720** samples, but all subjects are not filling up their yearly income in personal data sheet, so the total **410** subject was given their income. So here **220** people (**53.66%**) were income between **50000 to 300000** and **190** people (**46.34%**) people were income between **300001 to 550000**.

4.3 The Respondents socio personal variables and their 2x2x2x3 factorial design for Type D personality:

While the data collection was completed then F test ANOVAs, t-test, L.S.D. and correlation applied to check significance difference between psychosomatic patients and Normal people. So here first of all we see the mean, and S.D. score for independent variables on Type D personality, after then we see the result for ANOVAs, t-test., L.S.D. and correlation between psychosomatic diseases and normal people. So all result and result discussion are as under;

Table 4.4

The Mean and Standard deviation for independent variables on Type D personality

Vari-ables	A ₁				A ₂			
	B ₁		B ₂		B ₁		B ₂	
	C ₁	C ₂	C ₁	C ₂	C ₁	C ₂	C ₁	C ₂
(D ₁)	ΣX=1101 Mean= 36.71 N=30 S.D. =8.28	ΣX=1149 Mean =38.30 N=30 S.D. =8.51	ΣX=923 Mean =30.77 N=30 S.D. =8.00	ΣX=889 Mean =29.63 N=30 S.D. =8.23	ΣX=649 Mean =21.63 N=30 S.D. =8.40	ΣX=786 Mean =26.20 N=30 S.D. =8.63	ΣX=516 Mean =17.20 N=30 S.D.=8.12	ΣX=595 Mean =19.83 N=30 S.D. =8.33
(D ₂)	ΣX=968 Mean =32.27 N=30 S.D. =8.42	ΣX=1034 Mean =34.46 N=30 S.D. =8.65	ΣX=771 Mean =25.70 N=30 S.D.=8.14	ΣX=1098 Mean =36.60 N=30 S.D. =8.37	ΣX=771 Mean =25.70 N=30 S.D. =8.54	ΣX=810 Mean =27.00 N=30 S.D. =8.77	ΣX=732 Mean =24.40 N=30 S.D. =8.26	ΣX=637 Mean =21.23 N=30 S.D. =8.49
(D ₃)	ΣX=930 Mean =31.00 N=30 S.D. =8.64	ΣX=1134 Mean =37.80 N=30 S.D. =8.87	ΣX=863 Mean =28.77 N=30 S.D. =8.37	ΣX=870 Mean =29.00 N=30 S.D. =8.60	ΣX=841 Mean =28.03 N=30 S.D. =8.77	ΣX=1034 Mean =34.47 N=30 S.D. =8.99	ΣX=680 Mean =22.67 N=30 S.D. =8.49	ΣX=418 Mean =13.93 N=30 S.D. =8.72

Which, A₁= Psychosomatic people,
B₁=Male
C₁=Rural
D₁=High socio economic status
D₃= Low socio economic status

A₂=Normal people
B₂=female
C₂= Urban
D₂= Medium socio economic status

We have seen the table no.4.4 the Mean and Standard deviation for independent variables on Type d personality that the average mean score for psychosomatic diseases people were very high than normal people. the highest mean score **38.30** was high socio economic status psychosomatic diseases urban male people and lowest mean score **13.93** was low socio economic status normal urban female people.

so we have see the all result and conclude that the psychosomatic diseases people were very distress than normal people.

Table 4.5

F calculation for type D personality (2x2x2x3 factorial designed)

Variables	S.S.	d.f.	M.S.	F	Significance level
Ass (Type of people)	15198.42	1	15198.42	384.09	0.01
Bss (Sex)	608.67	1	608.67	15.38	0.01
Css (Area)	7106.45	1	7106.45	179.59	0.01
Dss (Social Ecoi Status)	89.67	2	44.84	1.13	N.S.
ABss	320.00	1	320.00	8.09	0.01
ACss	184.02	1	184.02	4.65	0.05
ADss	550.69	2	275.35	6.96	0.01
Bcss	530.45	1	530.45	13.41	0.01
BDss	559.80	2	279.90	7.07	0.01
CDss	1843.60	2	921.80	23.30	0.01
ABCss	634.69	1	634.69	16.04	0.01
ABDss	204.48	2	102.24	2.58	N.S.
BCDss	534.31	2	267.16	6.75	0.01
CDAss	1428.14	2	714.07	18.05	0.01
ABCDss	425.27	2	212.64	5.37	0.01
Wss	27539.07	696	39.57		
Tss	57757.73	719			

Significance levels df_1 0.05 = 3.85 0.01= 6.66

df_2 0.05 = 3.00 0.01= 4.62

We have seen the table no.4.5 that F value of Type of people variables was **384.09**, which was significance at **0.01** levels. The F value of sex variables was **15.38**, which was significance at **0.01** levels. The F value of Area variables was **179.59**, which was significance at **0.01** levels. The F value of Socio economic status variables was **1.13**, which was **not significance** at **0.05** levels. The F value of Interaction to Type of people and Sex variables was **8.09**, which was significance at **0.01** levels. The F value of Interaction to Type of people and Area variables was **4.65**, which was significance at **0.05** levels.

The F value of Interaction to Type of people and Socio economic status variables was **6.96**, which was significance at **0.01** levels. The F value of Interaction to Sex and Area variables was **13.41**, which was significance at **0.01** levels. The F value of Interaction to Sex and Socio economic status variables was **7.07**, which was significance at **0.01** levels. The F value of Interaction to Area and Socio economic status variables was **23.30**, which was significance at **0.01** levels. The F value of Interaction to Type of people, Sex and Area variables was **16.04**, which was significance at **0.01** levels. The F value of Interaction to Type of people, Sex and Socio economic status variables was **2.58**, which was **not significance** at **0.05** levels. The F value of Interaction to Sex, Area and Socio economic status variables was **6.75**, which was significance at **0.01** levels. The F value of Interaction to Type of people, Area and Socio economic status variables was **18.05**, which was significance at **0.01** levels. The F value of Interaction to Type of people, Sex, Area and Socio economic status variables was **5.37**, which was significance at **0.01** levels.

So we have seen the result and say that most result was significance at **0.01** levels. So we have said that the people of psychosomatic are more type D personality than Normal people. Hence we conclude that Type D personality is very affected factor for psychosomatic patients. Various earlier studies have also reported there was significance difference between psychosomatic male and female on Type D personality and Depression. **(S.Herachi,2009)**.

Ho₁ There is no significance difference of Type D personality based on Type of people variables.

Table 4.6

The mean and F value for Type of people variables on Type D personality

No.	Variables	N	Mean	F	Significance
1	Psychosomatic patients (A ₁)	360	32.58	384.09	0.01
2	Normal people (A ₂)	360	23.52		

Significance levels $df_1 = 0.05 = 3.85$

$0.01 = 6.66$

Table 4.7

L.S.D. for Type of people variables on Type D personality

No.	Variables	N	Mean diff.	Significance
1	Psychosomatic patients (A ₁)	360	9.06	0.01
2	Normal people (A ₂)	360		

Significance levels for L.S.D. = $0.05 = 0.93$

$0.01 = 1.22$

We have seen the table No. 4.6 that the mean for psychosomatic patients was **32.58** and the mean for normal people was **23.52**, so the mean different between psychosomatic patients and normal people on type D personality was **9.06**. The F value for Type of people variables was **384.09**, which was significance at **0.01** levels. So we saw the result and said that the people of psychosomatic were more type D personality than Normal people. Hence, the **Ho₁** was rejected and it could be said that there was significant mean difference between Type of people & their Type D personality score.

We have seen the table No. 4.7 L.S.D. for Type of people variables on Type D personality that the mean different between Psychosomatic patients Normal people on type D personality was **9.06**, which was Significance at **0.01** levels. Thus we concluded that the people of psychosomatic are more type D personality than normal people. So we could say that the people of psychosomatic patients are high Negative Affection an Inhibition for social activity. Hence we conclude that Type D personality was very affected factor for psychosomatic patients. Various earlier studies have also reported there is significance difference between Psychosomatic and Normal people on Type D personality and Depression. (S.R.THOMAS, 2009)

Ho₂ There is no significance difference of Type D personality based on Sex variables.

Table 4.8

The mean and F value for Sex variables on Type D personality

No.	Variables(Sex)	N	Mean	F	Significance
1	Male (B ₁)	360	31.13	15.38	0.01
2	Female (B ₂)	360	24.98		

Significance levels $df_1 = 0.05=3.85$

$0.01=6.66$

Table 4.9

L.S.D. for Type of Sex variables on Type D personality

No.	Variables(Sex)	N	Mean diff.	Significance
1	Male (B ₁)	360	6.15	0.01
2	Female (B ₂)	360		

Significance levels for L.S.D. $=0.05=0.93$

$0.01=1.22$

We have seen the table No. 4.8 that the mean for Male people was **31.13** and the mean for Female people was **24.98**, so the mean different between Male and Female people on type D personality was **6.15**, The F value for sex variables was **15.38**, which was significance at **0.01** levels. Hence, the **Ho₂** was rejected and it could be said that there was significant mean difference between Type of sex & their Type D personality score. So we saw the result and said that the Male people are more type D personality than Female people. Hence we concluded that Type D personality was very affected factor for Male people.

We have seen the table No. 4.9 the L.S.D. for Type of Sex variables on Type D personality that the mean different between Male and Female people on type D personality was **6.15**, which was Significance at **0.01** levels. Thus we concluded that the Male people are more type D personality than Female people. Hence we concluded that Type D personality was very affected factor for Male people. Various earlier studies have also reported there is significance difference between psychosomatic male and female on Type D personality and Depression. (S.Herachi, 2009)

Ho₃ There is no significance difference of Type D personality based on Area variables.

Table 4.10

The mean and F value for Area variables on Type D personality

No.	Variables(Area)	N	Mean	F	Significance
1	Rural people (c ₁)	360	27.08	179.59	0.01
2	Urban people (c ₂)	360	29.04		

Significance levels $df_1 = 0.05 = 3.85$

$0.01 = 6.66$

Table 4.11

L.S.D. for Type of Area variables on Type D personality

No.	Variables(Area)	N	Mean diff.	Significance
1	Rural people (c ₁)	360	1.96	0.01
2	Urban people (c ₂)	360		

Significance levels for L.S.D. =0.05=0.93

0.01=1.22

We have seen the table No. **4.10** that the mean for Rural people was **27.08** and the mean for Urban people was **29.04**, so the mean different between Rural people and Urban people on type D personality was **1.96**, The F value for Area variables was **179.59**, which was significant at **0.01** levels. Hence, the **H₀₃** was rejected and it could be said that there was significant mean difference between Type of area & their Type D personality score. So we saw the result and said that the urban people are more type D personality than rural people. Hence we concluded that Type D personality is very affected factor for urban people.

We have seen the table No. **4.11** the L.S.D. for type of area variables on Type D personality that the mean different between Rural people and Urban people on type D personality was **1.96**, which was Significance at **0.01** levels. Thus we concluded that the urban people are more type D personality than rural people. Hence we conclude that Type D personality was very affected factor for urban people. Various earlier studies have also reported there was significance difference between Area on Type D personality and Depression. (**Zala,K.J.,2010**)

Ho₄ There is no significance difference of Type D personality based on Social economics status variables.

Table 4.12

The mean and F value for Social economic status variables on Type D personality

No.	Variables (Social economic status)	N	Mean	F	Significance
1	High (D ₁)	240	27.53	1.13	N.S.
2	Medium (D ₂)	240	28.42		
3	Low (D ₃)	240	28.21		

Significance levels $df_2 = 0.05 = 3.00$

$0.01 = 4.62$

We have seen the table No. **4.12** that the mean for High social economic status people was **27.53**, the mean for medium social economic status people was **28.42** and the mean for Low social economic status people was **28.21**. So the mean different between High social economic status and Medium social economics status people was **0.89** and the mean different between High social economic status and Low social economics status people was **0.68** and then the mean different between medium social economic status and Low social economics status people was **0.21**. So we have seen the Result and said that it was minor mean difference to each other status people.

The F value for Social economic status variables was **1.13**, which was **not significance** at **0.05** levels. Hence, the **Ho₄** was accepted and it could be said that there was no significant mean difference between Type of socio economic status variables (S.E.S.) & their Type D personality score, but we concluded that Type D personality is very affected factor for medium social economic status people. Various earlier studies have also reported there was significance difference between Social economic statuses on Type D personality and Depression. **(Zala,K.J.,2010)**.

H₀₅ There is no significance difference of Type D personality based on Interaction for type of people and Sex variables.

Table 4.13

Interaction F for type of people and Sex variables on type D personality

Variables	A ₁ (psychosomatic patients)	A ₂ (Normal people)	F	Sig.
B ₁ (Male)	35.09	21.17	8.09	0.01
B ₂ (Female)	30.07	19.88		

Significance levels $df_1 = 0.05 = 3.85$

$0.01 = 6.66$

We have seen the table No.4.13 that the Interaction F for Type of people and Sex variables on Type D personality F value was **8.09**, which was significance at **0.01** levels. Hence, the **H₀₅** was rejected and it could be said that there was significant mean difference between Type of people and sex variables & their Type D personality score.

We have seen the all interaction means score and concluded that the psychosomatic people are more Type D personality than Normal people. The highest mean score **35.09** was psychosomatic male people. So we said that psychosomatic male people are more Type D personality people. Various earlier studies have also reported there was significance difference between psychosomatic male and female on Type D personality and Depression. (S.Herachi,2009)

Ho₆ There is no significance difference of Type D personality based on Interaction for type of people and Area variables.

Table 4.14

Interaction F for type of people and Area variables on type D personality

Variables	A ₁ (psychosomatic patients)	A ₂ (Normal people)	F	Sig.
C ₁ (Rural)	30.78	23.27	4.65	0.05
C ₂ (Urban)	34.30	23.78		

Significance levels $df_1 = 0.05 = 3.85$

$0.01 = 6.66$

We have seen the table No.4.14 that the Interaction F for Type of people and Area variables on Type D personality F value was **4.65**, which was significance at **0.05** levels. Hence, the **Ho₆** was rejected and it could be said that there was significant mean difference between Type of people and area variables & their Type D personality score.

We have seen the all interaction means score and concluded that the psychosomatic people are more Type D personality than Normal people. The highest mean score **34.30** was psychosomatic Urban people. So we said that psychosomatic patients for urban people are more Type D personality people. Various earlier studies have also reported there was significance difference between Area on Type D personality and Depression. **(Zala,K.J.,2010)**

Ho₇ There is no significance difference of Type D personality based on Interaction for type of people and social economic status variables.

Table 4.15

Interaction F for type of people and Social economic status variables on Type D personality

Variables(social economic status)	A ₁ (psychosomatic patients)	A ₂ (Normal people)	F	Sig.
High (D ₁)	33.72	21.22	6.96	0.01
Medium (D ₂)	32.26	24.58		
Low (D ₃)	31.64	24.78		

Significance levels $df_2 = 0.05 = 3.00$

$0.01 = 4.62$

We have seen the table No.4.15 that the Interaction F for Type of people and Social economic status variables on Type D personality F value was **6.96**, which was significance at **0.01** levels. Hence, the **Ho₇** was rejected and it could be said that there was significant mean difference between Type of people and socio economic status variables & their Type D personality score.

We have seen the all interaction means score and concluded that the High social economic status psychosomatic patients are more Type D personality than other status people. The highest mean score **37.32** was High social economic status psychosomatic patients. Various earlier studies have also reported there was significance difference between Statuses on Type D personality and Depression. **(Zala,K.J.,2010)**

Ho₈ There is no significance difference of Type D personality based on Interaction for Sex and Area variables.

Table 4.16

Interaction F for Sex and Area variables on type D personality

Variables	B ₁ (Male)	B ₂ (Female)	F	Sig.
C ₁ (Rural)	29.22	24.92	13.41	0.01
C ₂ (Urban)	33.04	25.04		

Significance levels $df_1 = 0.05 = 3.85$

$0.01 = 6.66$

We have seen the table No.4.16 that the Interaction F for Sex and Area variables on Type D personality F value was **13.41**, which was significance at **0.01** levels. Hence, the **Ho₈** was rejected and it could be said that there was significant mean difference between sex and area variables & their Type D personality score.

We have seen the all interaction means score and conclude that the urban male people are more Type D personality than Other Area people. The highest mean score **33.04** was Urban male people. Various earlier studies have also reported there was significance difference between Areas on Type D personality and Depression. **(Zala,K.J.,2010)**

H₀₉ There is no significance difference of Type D personality based on Interaction for Sex and social economic status variables.

Table 4.17

Interaction F Sex and Social economic status variables on type D personality

Variables (social economic status)	B ₁ (Male)	B ₂ (Female)	F	Sig.
High (D ₁)	30.71	24.36	7.07	0.01
Medium (D ₂)	29.97	26.98		
Low (D ₃)	32.83	23.59		

Significance levels $df_2 = 0.05 = 3.00$

$0.01 = 4.62$

We have seen the table No.4.17 that the Interaction F for Sex and Socio economic status variables on Type D personality F value was **7.07**, which was significance at **0.01** levels. Hence, the **H₀₉** was rejected and it could be said that there was significant mean difference between sex and Socio economic status variables & their Type D personality score.

We have seen the all interaction means score and concluded that the Low social economic status male people are more Type D personality than other status people. The highest mean score **32.83** was Low social economic status male. Various earlier studies have also reported there is significance difference between Statuses on Type D personality and Depression. (Zala,K.J.,2010)

H₀₁₀ There is no significance difference of Type D personality based on Interaction for Area and social economic status variables.

Table 4.18

Interaction F for Area and Social economic status variables on type D personality

Variables (social economic status)	C ₁ (Rural)	C ₂ (Urban)	F	Sig.
High (D ₁)	26.58	28.49	23.30	0.01
Medium (D ₂)	27.02	29.82		
Low (D ₃)	27.62	28.80		

Significance levels $df_2 = 0.05 = 3.00$
 $0.01 = 4.62$

We have seen the table No.4.18 that the Interaction F for Area and Socio economic status variables on Type D personality F value was **23.20**, which was significance at **0.01** levels. Hence, the **H₀₁₀** was rejected and it could be said that there was significant mean difference between Area and Socio economic status variables & their Type D personality score.

We have seen the all interaction means score and concluded that the medium social economic status urban people are more Type D personality than other status and area people. The highest mean score **29.82** was medium social economic status urban people. Various earlier studies have also reported there was significance difference between Statuses on Type D personality and Depression. (Zala,K.J.,2010)

Ho₁₁ There is no significance difference of Type D personality based on Interaction for Type of people, Sex and Area variables.

Table 4.19

Interaction F for Type of people, Sex and Area variables on type D personality

Variables	A ₁ (psychosomatic patients)		A ₂ (Normal people)		F	Sig.
	B ₁ (Male)	B ₂ (Female)	B ₁ (Male)	B ₂ (Female)		
C ₁ (Rural)	33.33	28.41	25.12	21.42	16.04	0.01
C ₂ (Urban)	36.85	31.74	29.22	18.33		

Significance levels df₁ =0.05=3.85
0.01=6.66

We have seen the table No.4.19 that the Interaction F for Type of people, Sex and Area variables on Type D personality F value was **16.04**, which was significance at **0.01** levels. Hence, the **Ho₁₁** was rejected and it could be said that there was significant mean difference between Type of people, sex and Area variables & their Type D personality score.

We have seen the all interaction means score and concluded that the urban psychosomatic male people are more Type D personality than other areas male and female. Various earlier studies have also reported there is significance difference between psychosomatic male and female on Type D personality and Depression. **(S.Herachi,2009)**

Ho₁₂ There is no significance difference of Type D personality based on Interaction for Type of people, Sex and Social economic status variables.

Table 4.20

Interaction F for Type of people, Sex and social economic status variables on type D personality

Variables	A ₁ (psychosomatic patients)		A ₂ (Normal people)		F	Significance
	B ₁ (Male)	B ₂ (Female)	B ₁ (Male)	B ₂ (Female)		
High(D ₁)	37.51	30.20	23.92	18.52	2.58	N.S.
Medium (D ₂)	33.37	31.15	26.35	22.82		
Low (D ₃)	34.40	28.52	31.25	18.30		

Significance levels $df_2 = 0.05 = 3.00$
 $0.01 = 4.62$

We have seen the table No.4.20 that the Interaction F for Type of people, Sex and socio economic status variables on Type D personality F value was **2.58**, which was **not significance** at **0.05** levels. Hence, the **Ho₁₂** was accepted and it could be said that there was no significant mean difference between Type of people, sex and socio economic status variables & their Type D personality score.

We have seen the all interaction means score and conclude that the high social economic status male psychosomatic patients are more Type D personality than other status male and female. But we conclude that Type D personality was very affected factor for medium social economic status people. Various earlier studies have also reported there was significance difference between psychosomatic male and female on Type D personality and Depression. (S.Herachi,2009)

H₀₁₃ There is no significance difference of Type D personality based on Interaction for Sex, Area and Social economic status variables.

Table 4.21

**Interaction F for Sex, Area and social economic status variables
on type D personality**

Variables	B ₁ (Male)		B ₂ (Female)		F	Significance
	C ₁ (Rural)	C ₂ (Urban)	C ₁ (Rural)	C ₂ (Urban)		
High (D ₁)	29.17	32.25	23.99	24.73	6.75	0.01
Medium (D ₂)	28.99	30.73	25.05	28.92		
Low (D ₃)	29.52	36.14	25.72	21.47		

Significance levels $df_2 = 0.05 = 3.00$
0.01 = 4.62

We have seen the table No.4.21 that the Interaction F for Sex, Area and socio economic status variables on Type D personality F value was **6.75**, which was significance at **0.01** levels. Hence, the **H₀₁₃** was rejected and it could be said that there was significant mean difference between Sex, Area and socio economic status variables & their Type D personality score.

We have seen the all interaction means score and concluded that the Low social economic status urban male are more Type D personality than other status male and female. Various earlier studies have also reported there was significance difference between psychosomatic male and female on Type D personality and Depression. (S.Herachi,2009)

Ho₁₄ There is no significance difference of Type D personality based on Interaction for Type of people, Area and Social economic status variables.

Table 4.22

Interaction F for Type of people, Area and social economic status variables on type D personality

Variables	A ₁ (psychosomatic patients)		A ₂ (Normal people)		F	Significance
	C ₁ (Rural)	C ₂ (Urban)	C ₁ (Rural)	C ₂ (Urban)		
High (D ₁)	33.74	33.97	19.42	23.02	18.05	0.01
Medium (D ₂)	28.99	35.53	25.05	24.12		
Low (D ₃)	29.89	33.40	25.35	24.20		

Significance levels $df_2 = 0.05 = 3.00$
 $0.01 = 4.62$

We have seen the table **No.4.22** that the Interaction F for Type of people, Area and social economic status variables on Type D personality F value was **18.05**, which was significance at **0.01** levels. Hence, the **Ho₁₄** was rejected and it could be said that there was significant mean difference between Type of people, Area and socio economic status variables & their Type D personality score.

We have seen the all interaction means score and concluded that the medium social economic status urban psychosomatic male patients are more Type D personality than other status male and female. Various earlier studies have also reported there was significance difference between psychosomatic male and female on Type D personality and Depression. **(S.Herachi,2009)**

Ho₁₅ There is no significance difference of Type D personality based on Interaction for Type of people, Sex, Area and Social economic status variables.

Table 4.23

Interaction F for Type of people, Sex, Area and social economic status variables on type D personality

Variables	A ₁				A ₂				F	Sig.
	B ₁		B ₂		B ₁		B ₂			
	C ₁	C ₂	C ₁	C ₂	C ₁	C ₂	C ₁	C ₂		
High (D ₁)	36.71	38.30	30.77	29.63	21.63	26.20	17.20	19.83	5.37	0.01
Medium (D ₂)	32.27	34.46	25.70	36.60	25.70	27.00	24.40	21.23		
Low (D ₃)	31.00	37.80	28.77	29.00	28.03	34.47	22.67	19.93		

Significance levels $df_2 = 0.05 = 3.00$
 $0.01 = 4.62$

We have seen the table No.4.23 that the Interaction F for Type of people, Sex, Area and social economic status variables on Type D personality F value was **5.37**, which was significance at **0.01** levels. Hence, the **Ho₁₅** was rejected and it could be said that there was significant mean difference between Type of people, Sex, Area and socio economic status variables & their Type D personality score.

We have seen the all interaction means score and concluded that the high socio economic status urban psychosomatic male patients are more Type D personality than other status male and female. Various earlier studies have also reported there was significance difference between psychosomatic male and female on Type D personality and Depression. **(S.Herachi,2009)**

Table 4.24

A L.S.D. Table for Interaction of Type of people, Sex, Area and social economic status variables on Type D personality

Sr.NO.	Pairs	Mean Diff.	Significance
1	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₁ C ₁ D ₂	4.44	0.05
2	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₁ C ₁ D ₃	5.71	0.01
3	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₁ C ₂ D ₁	1.69	N.S.
4	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₁ C ₂ D ₂	2.25	0.01
5	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₁ C ₂ D ₃	1.09	N.S.
6	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₂ C ₁ D ₁	5.94	0.01
7	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₂ C ₁ D ₂	11.01	0.01
8	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₂ C ₁ D ₃	7.94	0.01
9	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₂ C ₂ D ₁	7.08	0.01
10	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₂ C ₂ D ₂	0.11	N.S.
11	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₂ C ₂ D ₃	7.11	0.01
12	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₁ C ₁ D ₁	15.08	0.01
13	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₁ C ₁ D ₂	11.01	0.01
14	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₁ C ₁ D ₃	8.68	0.01
15	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₁ C ₂ D ₁	10.51	0.01
16	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₁ C ₂ D ₂	9.71	0.01
17	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₁ C ₂ D ₃	2.24	N.S.
18	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₂ C ₁ D ₁	19.51	0.01
19	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₂ C ₁ D ₂	12.31	0.01
20	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₂ C ₁ D ₃	14.04	0.01
21	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₂ C ₂ D ₁	16.88	0.01
22	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₂ C ₂ D ₂	15.48	0.01

23	$A_1B_1C_1D_1 \vee A_2B_2C_2D_3$	22.78	0.01
24	$A_1B_1C_1D_2 \vee A_1B_1C_1D_3$	1.27	N.S.
25	$A_1B_1C_1D_2 \vee A_1B_1C_2D_1$	6.03	0.01
26	$A_1B_1C_1D_2 \vee A_1B_1C_2D_2$	2.19	N.S.
27	$A_1B_1C_1D_2 \vee A_1B_1C_2D_3$	5.53	0.01
28	$A_1B_1C_1D_2 \vee A_1B_2C_1D_1$	1.50	N.S.
29	$A_1B_1C_1D_2 \vee A_1B_2C_1D_2$	6.57	0.01
30	$A_1B_1C_1D_2 \vee A_1B_2C_1D_3$	3.50	0.05
31	$A_1B_1C_1D_2 \vee A_1B_2C_2D_1$	2.64	N.S.
32	$A_1B_1C_1D_2 \vee A_1B_2C_2D_2$	4.33	0.05
33	$A_1B_1C_1D_2 \vee A_1B_2C_2D_3$	3.27	N.S.
34	$A_1B_1C_1D_2 \vee A_2B_1C_1D_1$	10.64	0.01
35	$A_1B_1C_1D_2 \vee A_2B_1C_1D_2$	6.57	0.01
36	$A_1B_1C_1D_2 \vee A_2B_1C_1D_3$	4.24	0.05
37	$A_1B_1C_1D_2 \vee A_2B_1C_2D_1$	6.07	0.01
38	$A_1B_1C_1D_2 \vee A_2B_1C_2D_2$	5.27	0.01
39	$A_1B_1C_1D_2 \vee A_2B_1C_2D_3$	2.20	N.S.
40	$A_1B_1C_1D_2 \vee A_2B_2C_1D_1$	15.07	0.01
41	$A_1B_1C_1D_2 \vee A_2B_2C_1D_2$	7.87	0.01
42	$A_1B_1C_1D_2 \vee A_2B_2C_1D_3$	9.60	0.01
43	$A_1B_1C_1D_2 \vee A_2B_2C_2D_1$	12.44	0.01
44	$A_1B_1C_1D_2 \vee A_2B_2C_2D_2$	11.04	0.01
45	$A_1B_1C_1D_2 \vee A_2B_2C_2D_3$	18.34	0.01
46	$A_1B_1C_1D_3 \vee A_1B_1C_2D_1$	7.30	0.01
47	$A_1B_1C_1D_3 \vee A_1B_1C_2D_2$	3.46	0.05
48	$A_1B_1C_1D_3 \vee A_1B_1C_2D_3$	6.80	0.01
49	$A_1B_1C_1D_3 \vee A_1B_2C_1D_1$	0.23	N.S.

50	$A_1B_1C_1D_3 \vee A_1B_2C_1D_2$	5.30	0.01
51	$A_1B_1C_1D_3 \vee A_1B_2C_1D_3$	2.23	N.S.
52	$A_1B_1C_1D_3 \vee A_1B_2C_2D_1$	1.37	N.S.
53	$A_1B_1C_1D_3 \vee A_1B_2C_2D_2$	5.60	0.01
54	$A_1B_1C_1D_3 \vee A_1B_2C_2D_3$	2.00	N.S.
55	$A_1B_1C_1D_3 \vee A_2B_1C_1D_1$	9.37	0.01
56	$A_1B_1C_1D_3 \vee A_2B_1C_1D_2$	5.30	0.01
57	$A_1B_1C_1D_3 \vee A_2B_1C_1D_3$	2.93	N.S.
58	$A_1B_1C_1D_3 \vee A_2B_1C_2D_1$	4.80	0.01
59	$A_1B_1C_1D_3 \vee A_2B_1C_2D_2$	4.00	0.05
60	$A_1B_1C_1D_3 \vee A_2B_1C_2D_3$	3.47	0.05
61	$A_1B_1C_1D_3 \vee A_2B_2C_1D_1$	13.80	0.01
62	$A_1B_1C_1D_3 \vee A_2B_2C_1D_2$	6.60	0.01
63	$A_1B_1C_1D_3 \vee A_2B_2C_1D_3$	8.33	0.01
64	$A_1B_1C_1D_3 \vee A_2B_2C_2D_1$	11.17	0.01
65	$A_1B_1C_1D_3 \vee A_2B_2C_2D_2$	9.77	0.01
66	$A_1B_1C_1D_3 \vee A_2B_2C_2D_3$	17.07	0.01
67	$A_1B_1C_2D_1 \vee A_1B_1C_2D_2$	3.84	0.05
68	$A_1B_1C_2D_1 \vee A_1B_1C_2D_3$	0.50	N.S.
69	$A_1B_1C_2D_1 \vee A_1B_2C_1D_1$	7.53	0.01
70	$A_1B_1C_2D_1 \vee A_1B_2C_1D_2$	12.60	0.01
71	$A_1B_1C_2D_1 \vee A_1B_2C_1D_3$	9.53	0.01
72	$A_1B_1C_2D_1 \vee A_1B_2C_2D_1$	8.67	0.01
73	$A_1B_1C_2D_1 \vee A_1B_2C_2D_2$	1.70	N.S.
74	$A_1B_1C_2D_1 \vee A_1B_2C_2D_3$	9.30	0.01
75	$A_1B_1C_2D_1 \vee A_2B_1C_1D_1$	16.67	0.01
76	$A_1B_1C_2D_1 \vee A_2B_1C_1D_2$	12.60	0.01

77	$A_1B_1 C_2D_1 v A_2B_1C_1D_3$	10.27	0.01
78	$A_1B_1 C_2D_1 v A_2B_1C_2D_1$	12.10	0.01
79	$A_1B_1 C_2D_1 v A_2B_1C_2D_2$	11.30	0.01
80	$A_1B_1 C_2D_1 v A_2B_1C_2D_3$	3.83	0.05
81	$A_1B_1 C_2D_1 v A_2B_2C_1D_1$	21.10	0.01
82	$A_1B_1 C_2D_1 v A_2B_2C_1D_2$	13.90	0.01
83	$A_1B_1 C_2D_1 v A_2B_2C_1D_3$	15.63	0.01
84	$A_1B_1 C_2D_1 v A_2B_2C_2D_1$	18.47	0.01
85	$A_1B_1 C_2D_1 v A_2B_2C_2D_2$	17.07	0.01
86	$A_1B_1 C_2D_1 v A_2B_2C_2D_3$	24.37	0.01
87	$A_1B_1 C_2D_2 v A_1B_1C_2D_3$	3.34	0.05
88	$A_1B_1 C_2D_2 v A_1B_2C_1D_1$	3.69	0.05
89	$A_1B_1 C_2D_2 v A_1B_2C_1D_2$	8.76	0.01
90	$A_1B_1 C_2D_2 v A_1B_2C_1D_3$	5.69	0.01
91	$A_1B_1 C_2D_2 v A_1B_2C_2D_1$	4.83	0.01
92	$A_1B_1 C_2D_2 v A_1B_2C_2D_2$	2.14	N.S.
93	$A_1B_1 C_2D_2 v A_1B_2C_2D_3$	5.46	0.01
94	$A_1B_1 C_2D_2 v A_2B_1C_1D_1$	12.83	0.01
95	$A_1B_1 C_2D_2 v A_2B_1C_1D_2$	8.76	0.01
96	$A_1B_1 C_2D_2 v A_2B_1C_1D_3$	6.43	0.01
97	$A_1B_1 C_2D_2 v A_2B_1C_2D_1$	8.26	0.01
98	$A_1B_1 C_2D_2 v A_2B_1C_2D_2$	7.46	0.01
99	$A_1B_1 C_2D_2 v A_2B_1C_2D_3$	0.01	N.S.
100	$A_1B_1 C_2D_2 v A_2B_2C_1D_1$	17.26	0.01
101	$A_1B_1 C_2D_2 v A_2B_2C_1D_2$	10.06	0.01
102	$A_1B_1 C_2D_2 v A_2B_2C_1D_3$	11.79	0.01
103	$A_1B_1 C_2D_2 v A_2B_2C_2D_1$	14.63	0.01

104	$A_1B_1 C_2D_2 v A_2B_2C_2D_2$	13.23	0.01
105	$A_1B_1 C_2D_2 v A_2B_2C_2D_3$	20.53	0.01
106	$A_1B_1 C_2D_3 v A_1B_2C_1D_1$	7.03	0.01
107	$A_1B_1 C_2D_3 v A_1B_2C_1D_2$	12.10	0.01
108	$A_1B_1 C_2D_3 v A_1B_2C_1D_3$	9.03	0.01
109	$A_1B_1 C_2D_3 v A_1B_2C_2D_1$	8.17	0.01
110	$A_1B_1 C_2D_3 v A_1B_2C_2D_2$	1.20	N.S.
111	$A_1B_1 C_2D_3 v A_1B_2C_2D_3$	8.80	0.01
112	$A_1B_1 C_2D_3 v A_2B_1C_1D_1$	16.17	0.01
113	$A_1B_1 C_2D_3 v A_2B_1C_1D_2$	12.10	0.01
114	$A_1B_1 C_2D_3 v A_2B_1C_1D_3$	9.77	0.01
115	$A_1B_1 C_2D_3 v A_2B_1C_2D_1$	11.60	0.01
116	$A_1B_1 C_2D_3 v A_2B_1C_2D_2$	10.80	0.01
117	$A_1B_1 C_2D_3 v A_2B_1C_2D_3$	3.33	0.05
118	$A_1B_1 C_2D_3 v A_2B_2C_1D_1$	20.60	0.01
119	$A_1B_1 C_2D_3 v A_2B_2C_1D_2$	13.40	0.01
120	$A_1B_1 C_2D_3 v A_2B_2C_1D_3$	15.13	0.01
121	$A_1B_1 C_2D_3 v A_2B_2C_2D_1$	17.97	0.01
122	$A_1B_1 C_2D_3 v A_2B_2C_2D_2$	16.57	0.01
123	$A_1B_1 C_2D_3 v A_2B_2C_2D_3$	23.87	0.01
124	$A_1B_2 C_1D_1 v A_1B_2C_1D_2$	5.07	0.01
125	$A_1B_2 C_1D_1 v A_1B_2C_1D_3$	2.00	N.S.
126	$A_1B_2 C_1D_1 v A_1B_2C_2D_1$	11.40	0.01
127	$A_1B_2 C_1D_1 v A_1B_2C_2D_2$	5.83	0.01
128	$A_1B_2 C_1D_1 v A_1B_2C_2D_3$	1.77	N.S.
129	$A_1B_2 C_1D_1 v A_2B_1C_1D_1$	9.14	0.01
130	$A_1B_2 C_1D_1 v A_2B_1C_1D_2$	5.07	0.01

131	$A_1B_2C_1D_1 \vee A_2B_1C_1D_3$	2.74	N.S.
132	$A_1B_2C_1D_1 \vee A_2B_1C_2D_1$	4.57	0.01
133	$A_1B_2C_1D_1 \vee A_2B_1C_2D_2$	3.77	0.05
134	$A_1B_2C_1D_1 \vee A_2B_1C_2D_3$	3.70	0.05
135	$A_1B_2C_1D_1 \vee A_2B_2C_1D_1$	13.57	0.01
136	$A_1B_2C_1D_1 \vee A_2B_2C_1D_2$	6.37	0.01
137	$A_1B_2C_1D_1 \vee A_2B_2C_1D_3$	8.10	0.01
138	$A_1B_2C_1D_1 \vee A_2B_2C_2D_1$	10.94	0.01
139	$A_1B_2C_1D_1 \vee A_2B_2C_2D_2$	9.54	0.01
140	$A_1B_2C_1D_1 \vee A_2B_2C_2D_3$	16.84	0.01
141	$A_1B_2C_1D_2 \vee A_1B_2C_1D_3$	3.07	N.S.
142	$A_1B_2C_1D_2 \vee A_1B_2C_2D_1$	3.93	0.05
143	$A_1B_2C_1D_2 \vee A_1B_2C_2D_2$	10.90	0.01
144	$A_1B_2C_1D_2 \vee A_1B_2C_2D_3$	3.30	N.S.
145	$A_1B_2C_1D_2 \vee A_2B_1C_1D_1$	4.07	0.05
146	$A_1B_2C_1D_2 \vee A_2B_1C_1D_2$	0.00	N.S.
147	$A_1B_2C_1D_2 \vee A_2B_1C_1D_3$	2.33	N.S.
148	$A_1B_2C_1D_2 \vee A_2B_1C_2D_1$	0.50	N.S.
149	$A_1B_2C_1D_2 \vee A_2B_1C_2D_2$	1.30	N.S.
150	$A_1B_2C_1D_2 \vee A_2B_1C_2D_3$	8.77	0.01
151	$A_1B_2C_1D_2 \vee A_2B_2C_1D_1$	8.50	0.01
152	$A_1B_2C_1D_2 \vee A_2B_2C_1D_2$	1.30	N.S.
153	$A_1B_2C_1D_2 \vee A_2B_2C_1D_3$	3.03	N.S.
154	$A_1B_2C_1D_2 \vee A_2B_2C_2D_1$	5.87	0.01
155	$A_1B_2C_1D_2 \vee A_2B_2C_2D_2$	4.47	0.05
156	$A_1B_2C_1D_2 \vee A_2B_2C_2D_3$	11.77	0.01
157	$A_1B_2C_1D_3 \vee A_1B_2C_2D_1$	0.86	N.S.

158	$A_1B_2C_1D_3 \vee A_1B_2C_2D_2$	7.83	0.01
159	$A_1B_2C_1D_3 \vee A_1B_2C_2D_3$	0.23	N.S.
160	$A_1B_2C_1D_3 \vee A_2B_1C_1D_1$	7.14	0.01
161	$A_1B_2C_1D_3 \vee A_2B_1C_1D_2$	3.07	N.S.
162	$A_1B_2C_1D_3 \vee A_2B_1C_1D_3$	0.74	N.S.
163	$A_1B_2C_1D_3 \vee A_2B_1C_2D_1$	2.57	N.S.
164	$A_1B_2C_1D_3 \vee A_2B_1C_2D_2$	1.77	N.S.
165	$A_1B_2C_1D_3 \vee A_2B_1C_2D_3$	5.70	0.01
166	$A_1B_2C_1D_3 \vee A_2B_2C_1D_1$	11.57	0.01
167	$A_1B_2C_1D_3 \vee A_2B_2C_1D_2$	4.37	0.05
168	$A_1B_2C_1D_3 \vee A_2B_2C_1D_3$	6.10	0.01
169	$A_1B_2C_1D_3 \vee A_2B_2C_2D_1$	8.94	0.01
170	$A_1B_2C_1D_3 \vee A_2B_2C_2D_2$	7.54	0.01
171	$A_1B_2C_1D_3 \vee A_2B_2C_2D_3$	14.84	0.01
172	$A_1B_2C_2D_1 \vee A_1B_2C_2D_2$	6.97	0.01
173	$A_1B_2C_2D_1 \vee A_1B_2C_2D_3$	0.63	N.S.
174	$A_1B_2C_2D_1 \vee A_2B_1C_1D_1$	8.00	0.01
175	$A_1B_2C_2D_1 \vee A_2B_1C_1D_2$	3.93	0.05
176	$A_1B_2C_2D_1 \vee A_2B_1C_1D_3$	1.60	N.S.
177	$A_1B_2C_2D_1 \vee A_2B_1C_2D_1$	3.43	0.05
178	$A_1B_2C_2D_1 \vee A_2B_1C_2D_2$	2.63	N.S.
179	$A_1B_2C_2D_1 \vee A_2B_1C_2D_3$	4.84	0.01
180	$A_1B_2C_2D_1 \vee A_2B_2C_1D_1$	12.42	0.01
181	$A_1B_2C_2D_1 \vee A_2B_2C_1D_2$	5.23	0.01
182	$A_1B_2C_2D_1 \vee A_2B_2C_1D_3$	6.96	0.01
183	$A_1B_2C_2D_1 \vee A_2B_2C_2D_1$	9.80	0.01
184	$A_1B_2C_2D_1 \vee A_2B_2C_2D_2$	8.40	0.01

185	$A_1B_2 C_2D_1 \vee A_2B_2C_2D_3$	15.70	0.01
186	$A_1B_2 C_2D_2 \vee A_1B_2C_2D_3$	7.60	0.01
187	$A_1B_2 C_2D_2 \vee A_2B_1C_1D_1$	14.97	0.01
188	$A_1B_2 C_2D_2 \vee A_2B_1C_1D_2$	10.90	0.01
189	$A_1B_2 C_2D_2 \vee A_2B_1C_1D_3$	8.57	0.01
190	$A_1B_2 C_2D_2 \vee A_2B_1C_2D_1$	1.04	N.S.
191	$A_1B_2 C_2D_2 \vee A_2B_1C_2D_2$	9.60	0.01
192	$A_1B_2 C_2D_2 \vee A_2B_1C_2D_3$	2.13	N.S.
193	$A_1B_2 C_2D_2 \vee A_2B_2C_1D_1$	19.40	0.01
194	$A_1B_2 C_2D_2 \vee A_2B_2C_1D_2$	12.20	0.01
195	$A_1B_2 C_2D_2 \vee A_2B_2C_1D_3$	13.93	0.01
196	$A_1B_2 C_2D_2 \vee A_2B_2C_2D_1$	16.77	0.01
197	$A_1B_2 C_2D_2 \vee A_2B_2C_2D_2$	15.37	0.01
198	$A_1B_2 C_2D_2 \vee A_2B_2C_2D_3$	22.67	0.01
199	$A_1B_2 C_2D_3 \vee A_2B_1C_1D_1$	7.37	0.01
200	$A_1B_2 C_2D_3 \vee A_2B_1C_1D_2$	3.30	N.S.
201	$A_1B_2 C_2D_3 \vee A_2B_1C_1D_3$	0.97	N.S.
202	$A_1B_2 C_2D_3 \vee A_2B_1C_2D_1$	2.80	N.S.
203	$A_1B_2 C_2D_3 \vee A_2B_1C_2D_2$	2.00	N.S.
204	$A_1B_2 C_2D_3 \vee A_2B_1C_2D_3$	5.47	0.01
205	$A_1B_2 C_2D_3 \vee A_2B_2C_1D_1$	11.80	0.01
206	$A_1B_2 C_2D_3 \vee A_2B_2C_1D_2$	4.66	0.01
207	$A_1B_2 C_2D_3 \vee A_2B_2C_1D_3$	6.33	0.01
208	$A_1B_2 C_2D_3 \vee A_2B_2C_2D_1$	9.17	0.01
209	$A_1B_2 C_2D_3 \vee A_2B_2C_2D_2$	7.77	0.01
210	$A_1B_2 C_2D_3 \vee A_2B_2C_2D_3$	15.07	0.01
211	$A_2B_1 C_1D_1 \vee A_2B_1C_1D_2$	4.07	0.05

212	$A_2B_1 C_1D_1 \vee A_2B_1C_1D_3$	6.40	0.01
213	$A_2B_1 C_1D_1 \vee A_2B_1C_2D_1$	4.57	0.01
214	$A_2B_1 C_1D_1 \vee A_2B_1C_2D_2$	5.37	0.01
215	$A_2B_1 C_1D_1 \vee A_2B_1C_2D_3$	12.84	0.01
216	$A_2B_1 C_1D_1 \vee A_2B_2C_1D_1$	4.43	0.05
217	$A_2B_1 C_1D_1 \vee A_2B_2C_1D_2$	2.77	N.S.
218	$A_2B_1 C_1D_1 \vee A_2B_2C_1D_3$	1.04	N.S.
219	$A_2B_1 C_1D_1 \vee A_2B_2C_2D_1$	1.80	N.S.
220	$A_2B_1 C_1D_1 \vee A_2B_2C_2D_2$	0.40	N.S.
221	$A_2B_1 C_1D_1 \vee A_2B_2C_2D_3$	7.70	0.01
222	$A_2B_1 C_1D_2 \vee A_2B_1C_1D_3$	2.33	N.S.
223	$A_2B_1 C_1D_2 \vee A_2B_1C_2D_1$	0.50	N.S.
224	$A_2B_1 C_1D_2 \vee A_2B_1C_2D_2$	1.30	N.S.
225	$A_2B_1 C_1D_2 \vee A_2B_1C_2D_3$	8.77	0.01
226	$A_2B_1 C_1D_2 \vee A_2B_2C_1D_1$	8.50	0.01
227	$A_2B_1 C_1D_2 \vee A_2B_2C_1D_2$	1.30	N.S.
228	$A_2B_1 C_1D_2 \vee A_2B_2C_1D_3$	3.03	N.S.
229	$A_2B_1 C_1D_2 \vee A_2B_2C_2D_1$	5.87	0.01
230	$A_2B_1 C_1D_2 \vee A_2B_2C_2D_2$	4.47	0.05
231	$A_2B_1 C_1D_2 \vee A_2B_2C_2D_3$	11.77	0.01
232	$A_2B_1 C_1D_2 \vee A_2B_1C_2D_1$	1.83	N.S.
233	$A_2B_1 C_1D_3 \vee A_2B_1C_2D_2$	1.03	N.S.
234	$A_2B_1 C_1D_3 \vee A_2B_1C_2D_3$	6.44	0.01
235	$A_2B_1 C_1D_3 \vee A_2B_2C_1D_1$	10.83	0.01
236	$A_2B_1 C_1D_3 \vee A_2B_2C_1D_2$	3.63	0.05
237	$A_2B_1 C_1D_3 \vee A_2B_2C_1D_3$	5.36	0.01
238	$A_2B_1 C_1D_3 \vee A_2B_2C_2D_1$	8.20	0.01

239	$A_2B_1 C_1D_3 \vee A_2B_2C_2D_2$	6.80	0.01
240	$A_2B_1 C_1D_3 \vee A_2B_2C_2D_3$	14.10	0.01
241	$A_2B_1 C_2D_1 \vee A_2B_1C_2D_2$	0.80	N.S.
242	$A_2B_1 C_2D_1 \vee A_2B_1C_2D_3$	8.27	0.01
243	$A_2B_1 C_2D_1 \vee A_2B_2C_1D_1$	9.00	0.01
244	$A_2B_1 C_2D_1 \vee A_2B_2C_1D_2$	1.80	N.S.
245	$A_2B_1 C_2D_1 \vee A_2B_2C_1D_3$	3.53	0.05
246	$A_2B_1 C_2D_1 \vee A_2B_2C_2D_1$	6.37	0.01
247	$A_2B_1 C_2D_1 \vee A_2B_2C_2D_2$	4.97	0.01
248	$A_2B_1 C_2D_1 \vee A_2B_2C_2D_3$	12.27	0.01
249	$A_2B_1 C_2D_2 \vee A_2B_1C_2D_3$	7.47	0.01
250	$A_2B_1 C_2D_2 \vee A_2B_2C_1D_1$	9.80	0.01
251	$A_2B_1 C_2D_2 \vee A_2B_2C_1D_2$	2.60	N.S.
252	$A_2B_1 C_2D_2 \vee A_2B_2C_1D_3$	4.33	0.05
253	$A_2B_1 C_2D_2 \vee A_2B_2C_2D_1$	7.17	0.01
254	$A_2B_1 C_2D_2 \vee A_2B_2C_2D_2$	5.77	0.01
255	$A_2B_1 C_2D_2 \vee A_2B_2C_2D_3$	13.07	0.01
256	$A_2B_1 C_2D_3 \vee A_2B_2C_1D_1$	17.27	0.01
257	$A_2B_1 C_2D_3 \vee A_2B_2C_1D_2$	10.07	0.01
258	$A_2B_1 C_2D_3 \vee A_2B_2C_1D_3$	11.80	0.01
259	$A_2B_1 C_2D_3 \vee A_2B_2C_2D_1$	14.64	0.01
260	$A_2B_1 C_2D_3 \vee A_2B_2C_2D_2$	13.24	0.01
261	$A_2B_1 C_2D_3 \vee A_2B_2C_2D_3$	20.54	0.01
262	$A_2B_2 C_1D_1 \vee A_2B_2C_1D_2$	7.20	0.01
263	$A_2B_2 C_1D_1 \vee A_2B_2C_1D_3$	5.47	0.01
264	$A_2B_2 C_1D_1 \vee A_2B_2C_2D_1$	2.63	N.S.
265	$A_2B_2 C_1D_1 \vee A_2B_2C_2D_2$	4.03	0.05

266	$A_2B_2 C_1D_1 v A_2B_2C_2D_3$	3.27	N.S.
267	$A_2B_2 C_1D_2 v A_2B_2C_1D_3$	1.73	N.S.
268	$A_2B_2 C_1D_2 v A_2B_2C_2D_1$	4.57	0.01
269	$A_2B_2 C_1D_2 v A_2B_2C_2D_2$	3.17	N.S.
270	$A_2B_2 C_1D_2 v A_2B_2C_2D_3$	10.47	0.01
271	$A_2B_2 C_1D_3 v A_2B_2C_2D_1$	2.84	N.S.
272	$A_2B_2 C_1D_3 v A_2B_2C_2D_2$	1.44	N.S.
273	$A_2B_2 C_1D_3 v A_2B_2C_2D_3$	8.74	0.01
274	$A_2B_2 C_2D_1 v A_2B_2C_2D_2$	1.40	N.S.
275	$A_2B_2 C_2D_1 v A_2B_2C_2D_3$	5.90	0.01
276	$A_2B_2 C_2D_2 v A_2B_2C_2D_3$	7.30	0.01

Sig.levels for L.S.D. 0.05=3.30

0.01=4.46

We have seen the table no.4.24 A L.S.D. Table for Interaction of Type of people, Sex, Area and socio economic status variables on Type D personality that we seen the result and said that most of pairs are significance at **0.01** levels. We also said that the **highest mean difference** between $A_1B_1 C_2D_1 v A_2B_2C_2D_3$ (**high social economic status urban psychosomatic male V low social economic status rural normal Female**) was **24.37**, so we also said that it was very big difference. The **Lowest means difference** between $A_1B_2 C_1D_2 v A_2B_1C_1D_2$ (**medium social economic status rural psychosomatic female V medium social economic status rural normal male**) was **0.00** on Type D personality. Hence see the all result and concluded that either all variables (Factor: Like as Type of people, Sex, Area and Social economic status) are affected on Type D personality or Type D personality was affected them. Various earlier studies have also reported there was significance difference between psychosomatic male and female for different social economic status on Type D personality and Depression. (S.Herachi,2009, S.R.THOMAS, 2009,Zala,K.J.2010)

H₀₁₆ There is no significance difference of Type D personality based on Type of Family variables.

Table 4.25

The Respondents Demographic variables and their t- test for Type D personality

No.	Variables (Type of family)	N	Mean	S.D.	t	Sig.
1	Joint family	428	28.58	9.33	1.54	N.S.
2	Divided family	292	27.55	8.50		

Significance levels =0.05=1.97
0.01=2.59

We have seen the table no.4.25't' calculation for Type D personality between Joint and Divided family people that the t value was **1.54**, which was **not significance** at **0.05** levels. Hence, the **H₀₁₆** was accepted and it could be said that there was no significant mean difference between Type of family variables & their Type D personality score. But we compare mean score we said that a joint family people are little more Type D personality than divided family people.

H₀₁₇ There is no significance difference of Type D personality based on Type of Income variables.

Table 4.26

The Respondents Demographic variables and their t- test for Type D personality

No.	Variables (Type of Income)	N	Mean	S.D.	t	Sig.
1	50000 To 300000	220	29.01	8.74	0.22	N.S.
2	300001 To 550000	90	29.24	8.90		

Significance levels =0.05=1.97
0.01=2.59

We have seen the table no.4.26 that 't' calculation for Type D personality between Income variables, the t value was **0.22**, which was **not significance** at **0.05** levels. Hence, the **H₀₁₇** was accepted and it could be said that there was no significant mean difference between Type of Income variables & their Type D personality score.

But we compare mean score we said those people Income are up to 300001 Rs; they are little more Type D personality than the people Income between 50000 to 300000.

4.4 The Respondents socio personal variables and their 2x2x2x3 factorial design for Depression:

While the data collection was completed then F test ANOVAs, t-test, L.S.D. and correlation applied to check significance difference between psychosomatic patients and Normal people. So here first of all we see the mean and S.D. score for independent variables on depression, after then we see the result for ANOVAs, t-test., L.S.D. and correlation between psychosomatic diseases and normal people. So all result and result discussion are as under;

Table 4.27

The Mean and Standard deviation for independent variables on Depression

Vari-ables	A ₁				A ₂			
	B ₁		B ₂		B ₁		B ₂	
	C ₁	C ₂	C ₁	C ₂	C ₁	C ₂	C ₁	C ₂
(D ₁)	∑Y=1479 Mean =49.30 N=30 S.D. =12.50	∑Y=1567 Mean =52.23 N=30 S.D. =13.10	∑Y=1379 Mean =45.97 N=30 S.D. =12.14	∑Y=1303 Mean =43.43 N=30 S.D. =12.74	∑Y=801 Mean =26.70 N=30 S.D. =11.69	∑Y=1088 Mean =36.27 N=30 S.D. =12.29	∑Y=652 Mean =21.73 N=30 S.D. =11.32	∑Y=753 Mean =25.10 N=30 S.D. =11.92
(D ₂)	∑Y=1720 Mean =57.33 N=30 S.D. =14.07	∑Y=1556 Mean =51.87 N=30 S.D. =14.07	∑Y=958 Mean =31.93 N=30 S.D. =13.10	∑Y=1574 Mean =52.47 N=30 S.D. =13.59	∑Y=743 Mean =24.76 N=30 S.D. =12.65	∑Y=975 Mean =32.50 N=30 S.D. =13.25	∑Y=670 Mean =22.33 N=30 S.D. =12.29	∑Y=635 Mean =21.17 N=30 S.D. =12.89
(D ₃)	∑Y=1652 Mean =55.07 N=30 S.D. =12.96	∑Y=1385 Mean =46.17 N=30 S.D. =13.56	∑Y=1221 Mean =40.70 N=30 S.D. =12.59	∑Y=1278 Mean =42.60 N=30 S.D. =13.19	∑Y=835 Mean =27.83 N=30 S.D. =12.14	∑Y=1088 Mean =36.27 N=30 S.D. =12.74	∑Y=1014 Mean =33.80 N=30 S.D. =11.78	∑Y=696 Mean =23.20 N=30 S.D. =12.38

Which, A₁= psychosomatic people

A₂=Normal people

B₁=Male

B₂=female

C₁=Rural

C₂= Urban

D₁=High socio economic status

D₂= Medium socio economic status

D₃= Low socio economic status

We have seen the table no.4.27 the Mean and Standard deviation for independent variables on Depression that the average mean score for psychosomatic diseases people were very high than normal people. the highest mean score 57.33 was medium socio economic status psychosomatic diseases rural male people and lowest mean score 21.17 was medium socio economic status normal urban female people.

so we have see the all result and conclude that the psychosomatic diseases people were very depressed than normal people.

Table 4.28

F calculation for Depression (2x2x2x3 factorial designed)

Variables	S.S	d.f.	M.S.	F	Sig.
Ass (Type of people)	71421.17	1	71421.17	1230.13	0.01
Bss (Sex)	734.07	1	734.07	12.64	0.01
Css (Area)	10927.81	1	10927.81	188.22	0.01
Dss (Social Ecoi Status)	309.05	2	154.53	2.66	N.S.
ABss	136.07	1	136.07	2.34	N.S.
ACss	475.31	1	475.31	8.19	0.01
ADss	2167.77	2	1083.89	18.67	0.01
Bess	1.90	1	1.90	0.03	N.S.
BDss	1500.72	2	750.36	12.92	0.01
CDss	608.81	2	304.41	5.24	0.01
ABCss	5616.84	1	5616.84	96.74	0.01
ABDss	3874.37	2	1937.19	33.37	0.01
BCDss	242.42	2	121.21	2.09	N.S.
CDAss	308.43	2	154.22	2.66	N.S.
ABCDss	1125.77	2	562.89	9.69	0.01
Wss	40410.77	696	58.06		
Tss	139861.28	719			

Significance levels df_1 0.05 = 3.85

0.01= 6.66

df_2 0.05 = 3.00

0.01 = 4.62

We have seen the table no.4.28 that F value of Type of people variables was **1230.13**, which was significance at **0.01** levels. The F value of sex variables was **12.64**, which was significance at **0.01** levels. The F value of Area variables was **188.22**, which was significance at **0.01** levels. The F value of Social economics status variables was **2.66**, which was **not significance** at **0.05** levels. The F value of Interaction to Type of people and Sex variables was **2.34**, which was **not significance** at **0.05** levels. The F value of Interaction to Type of people and Area variables was **8.19**, which was significance at **0.01** levels.

The F value of Interaction to Type of people and Social economics status variables was **18.67**, which was significance at **0.01** levels. The F value of Interaction to Sex and Area variables was **0.03**, which was **not significance** at **0.05** levels. The F value of Interaction to Sex and Social economics status variables was **12.92**, which was significance at **0.01** levels. The F value of Interaction to Area and Social economics status variables was **5.24**, which was significance at **0.01** levels. The F value of Interaction to Type of people, Sex and Area variables was **96.74**, which was significance at **0.01** levels. The F value of Interaction to Type of people, Sex and Social economics status variables was **33.37**, which was significance at **0.01** levels. The F value of Interaction to Sex, Area and Social economics status variables was **2.09**, which was **not significance** at **0.05** levels. The F value of Interaction to Type of people, Area and Social economics status variables was **2.66**, which was **not significance** at **0.05** levels. The F value of Interaction to Type of people, Sex, Area and Social economics status variables was **9.69** which was significance at **0.01** levels.

So we have seen the result and said that most result was significance at **0.01** levels. Thus we say that the people of psychosomatic are more depressed than Normal people. Hence we concluded that Depression was very affected factor for psychosomatic patients. Various earlier studies have also reported there was significance difference between psychosomatic male and female on Type D personality and Depression. **(S.Herachi,2009)**

H₀₁₈ There is no significance difference of Depression based on Type of people variables

Table 4.29

The mean and F value for Type of people variables on Depression

No.	Variables	N	Mean	F	Significance
1	Psychosomatic patients (A ₁)	360	47.42	1230.13	0.01
2	Normal people (A ₂)	360	27.64		

Significance levels df₁ 0.05 = 3.85

0.01= 6.66

Table 4.30

L.S.D. for Type of people variables on Depression

No.	Variables	N	Mean diff.	Significance
1	Psychosomatic patients (A ₁)	360	19.78	0.01
2	Normal people (A ₂)	360		

Significance levels for L.S.D. =0.05=1.12

0.01=1.48

We have seen the table No. **4.29** that the mean for psychosomatic patients was **47.42** and the mean for normal people was **27.64**, so the mean different between psychosomatic patients and normal people on Depression was **19.78**. The F value for Type of people variables was **1230.13**, which was significance at **0.01** levels. Hence, the **H₀₁₈** was rejected and it could be said that there was significant mean difference between Type of people & their Depression score. So we have seen result and also say that the people of psychosomatic are more depressed than Normal people. Hence we concluded that Depression is very affected factor for psychosomatic patients.

We have seen the table No. **4.30** L.S.D. for Type of people variables on Depression that the mean different between Psychosomatic patients Normal people on Depression was **19.78**, which was Significance at **0.01** levels. Thus we concluded that the people of psychosomatic are more depressed than normal people. Various earlier studies have also reported there was significance difference between Psychosomatic and Normal people on Type D personality and Depression. (S.R.THOMAS, 2009)

H₀₁₉ There is no significance difference of Depression based on Sex variables.

Table 4.31

The mean and F value for Sex variables on Depression

No.	Variables(Sex)	N	Mean	F	Significance
1	Male (B ₁)	360	41.36	12.64	0.01
2	Female (B ₂)	360	33.70		

Significance levels df1 =0.05=3.85
0.01=6.66

Table 4.32

L.S.D. for Type of Sex variables on Depression

No.	Variables(Sex)	N	Mean diff.	Significance
1	Male (B ₁)	360	7.66	0.01
2	Female (B ₂)	360		

Significance levels for L.S.D. =0.05=1.12
0.01=1.48

We have seen the table No. **4.31** that the mean for Male people was **41.36** and the mean for Female people was **33.70**, so the mean different between Male and Female people on Depression was **7.66**. The F value for sex variables was **12.64**, which was significance at **0.01** levels. Hence, the **H₀₁₉** was rejected and it could be said that there

was significant mean difference between Sex variables & their Depression score. So we have seen the result and say that the Male people are more depressed than Female people. Hence we concluded that Depression was very affected factor for Male people.

We have seen the table No. **4.32 L.S.D.** for Type of Sex variables on Depression that the mean different between Male and Female people on Depression was **7.66**, which was Significance at **0.01** levels. Thus we concluded that the Male people are more depressed than Female people Various earlier studies have also reported there was significance difference between psychosomatic male and female on Type D personality and Depression. **(S.Herachi, 2009)**

Ho₂₀ There is no significance difference of Depression based on Area variables.

Table 4.33

The mean and F value for Area variables on Depression

No.	Variables(Area)	N	Mean	F	Significance
1	Rural people (c ₁)	360	36.46	188.22	0.01
2	Urban people (c ₂)	360	38.61		

Significance levels df₁ =0.05=3.85

0.01=6.66

Table 4.34

L.S.D. for Type of Area variables on Depression

No.	Variables(Area)	N	Mean diff.	Significance
1	Rural people (c ₁)	360	2.15	0.01
2	Urban people (c ₂)	360		

Significance levels for L.S.D. = 0.05=1.12

0.01=1.48

We have seen the table No. 4.33 that the mean for Rural people was **36.46** and the mean for Urban people was **38.61**, so the mean different between Rural people and Urban people on Depression was **2.15**, The F value for Area variables was **188.22**, which was significance at **0.01** levels. Hence, the **H₀₂₀** was rejected and it could be said that there was significant mean difference between Area variables & their Depression score. So we have seen the result and say that the urban people are more depressed than rural people. Hence we conclude that Depression was very affected factor for urban people.

We have seen the table No. 4.34 L.S.D. for Type of Area variables on Depression that the mean different between Rural people and Urban people on Depression was **2.15**, which was Significance at **0.01** levels. Thus we concluded that the urban people are more depressed than rural people. Various earlier studies have also reported there was significance difference between Area on Type D personality and Depression. (Zala,K.J.,2010)

H₀₂₁ There is no significance difference of Depression based on Social economics status variables.

Table 4.35

The mean and F value for Social economic status variables on Depression

No.	Variables (Social economic status)	N	Mean	F	Significance
1	High (D ₁)	240	37.59	2.66	N.S.
2	Medium (D ₂)	240	36.80		
3	Low (D ₃)	240	38.83		

Significance levels $df_2 = 0.05 = 3.00$
 $0.01 = 4.62$

We have seen the table No. 4.35 that the mean for High social economic status people was **37.59**, the mean for medium social economic status people was **36.80** and the mean for Low social economic status people was **38.83**. So the mean different between High social economic status and Medium social economics status people was **0.79**, and

the mean different between High social economic status and Low social economics status people was **0.22** and then the mean different between medium social economic status and Low social economics status people was **2.03**. So we have seen the Result and say that it is minor mean difference to each other status people.

The F value for Social economic status variables was **2.66**, which was **not significance** at **0.05** levels. Hence, the **Ho₂₁** was accepted and it could be said that there was significant mean difference between type of socio economic status variables & their Depression score. But we conclude that Depression was very affected factor for Low social economic status people. Various earlier studies have also reported there was significance difference between Social economic statuses on Type D personality and Depression but this result against various earlier studies. (Zala,K.J.,2010)

Ho₂₂ There is no significance difference of Depression based on Interaction for type of people and Sex variables.

Table 4.36

Interaction F for type of people and Sex variables on Depression

Variables	A ₁ (psychosomatic patients)	A ₂ (Normal people)	F	Sig.
B ₁ (Male)	51.99	30.72	2.34	N.S.
B ₂ (Female)	42.85	24.56		

Significance levels df1 =0.05=3.85

0.01=6.66

We have seen the table No.4.36 that the Interaction F for Type of people and Sex variables on Depression F value was **8.09**, which was **not significance** at **0.05** levels. Hence, the **Ho₂₂** was accepted and it could be said that there was no significant mean difference between Type of people and sex variables & their Depression score.

We have seen the all interaction means score and concluded that the psychosomatic people are more depressed than Normal people. The highest mean score **51.99** was psychosomatic male people. Various earlier studies have also reported there

was significance difference between psychosomatic male and female on Type D personality and Depression but this result against various earlier studies. (S.Herachi,2009)

Ho₂₃ There is no significance difference of Depression based on Interaction for type of people and Area variables.

Table 4.37

Interaction F for type of people and Area variables on Depression

Variables	A ₁ (psychosomatic patients)	A ₂ (Normal people)	F	Sig.
C ₁ (Rural)	46.72	26.19	8.19	0.01
C ₂ (Urban)	48.13	29.08		

Significance levels df₁ =0.05=3.85

0.01=6.66

We have seen the table No.4.37 that the Interaction F for Type of people and Area variables on Depression F value was **8.19**, which was significance at **0.01** levels. Hence, the **Ho₂₃** was rejected and it could be said that there was significant mean difference between Type of people and Area variables & their Depression score..

We have seen the all interaction means score and concluded that the psychosomatic people are more depressed than Normal people. The highest mean score **48.13** was psychosomatic Urban people. Various earlier studies have also reported there was significance difference between Area on Type D personality and Depression. (Zala,K.J.,2010)

Ho₂₄ There is no significance difference of Depression based on Interaction for type of people and social economic status variables.

Table 4.38

Interaction F for type of people and Social economic status variables on Depression

Variables (social economic status)	A ₁ (psychosomatic patients)	A ₂ (Normal people)	F	Sig.
High (D ₁)	47.73	27.45	18.67	0.01
Medium (D ₂)	48.40	25.19		
Low (D ₃)	46.14	30.28		

Significance levels $df_2 = 0.05 = 3.00$

$0.01 = 4.62$

We have seen the table No.4.38 that the Interaction F for Type of people and Social economic status variables on Depression F value was **18.67**, which was significance at **0.01** levels. Hence, the **Ho₂₄** was rejected and it could be said that there was significant mean difference between Type of people and socio economic status variables & their Depression score.

We have seen the all interaction means score and concluded that the Medium social economic status psychosomatic patients are more depressed than other status people. The highest mean score **48.40** was Medium social economic status psychosomatic patients. So we said that Medium social economic status psychosomatic patients are more depressed people. Various earlier studies have also reported there was significance difference between Statuses on Type D personality and Depression. **(Zala,K.J.,2010)**

H₀₂₅ There is no significance difference of Depression based on Interaction for Sex and Area variables.

Table 4.39

Interaction F for Sex and Area variables on Depression

Variables	B ₁ (Male)	B ₂ (Female)	F	Sig.
C ₁ (Rural)	40.16	32.74	0.03	N.S.
C ₂ (Urban)	42.55	34.66		

Significance levels $df_1 = 0.05 = 3.85$

$0.01 = 6.66$

We have seen the table No.4.39 that the Interaction F for Sex and Area variables on Depression F value was **0.03**, which was **not significance** at **0.05** levels. Hence, the **H₀₂₅** was accepted and it could be said that there was no significant mean difference between Sex and Area variables & their Depression score.

We have seen the all interaction means score and concluded that the urban male people are more depressed than Other Area people. The highest mean score **42.55** was Urban male people. Various earlier studies have also reported there was significance difference between Areas on Type D personality and Depression but this result against various earlier studies (**Zala,K.J.,2010**)

Ho₂₆ There is no significance difference of Depression based on Interaction for Sex and social economic status variables.

Table 4.40

Interaction F Sex and Social economic status variables on Depression

Variables (social economic status)	B ₁ (Male)	B ₂ (Female)	F	Sig.
High (D ₁)	41.13	34.06	12.92	0.01
Medium (D ₂)	41.62	31.98		
Low (D ₃)	41.34	35.08		

Significance levels $df_2 = 0.05 = 3.00$
 $0.01 = 4.62$

We have seen the table No.4.40 that the Interaction F for Sex and Social economic status variables on Depression F value was **12.92**, which is significance at **0.01** levels. Hence, the **Ho₂₆** was rejected and it could be said that there was significant mean difference between Sex and Social economic status variables & their Depression score.

We have also seen the all interaction means score and concluded that the Medium social economic status male people are more depressed than other status people. The highest mean score **41.62** was Medium social economic status male people. Various earlier studies have also reported there was significance difference between Statuses on Type D personality and Depression. (Zala,K.J.,2010)

Ho₂₇ There is no significance difference of Depression based on Interaction for Area and social economic status variables.

Table 4.41

Interaction F for Area and Social economic status variables on Depression

Variables (social economic status)	C ₁ (Rural)	C ₂ (Urban)	F	Sig.
High (D ₁)	35.93	39.26	5.24	0.01
Medium (D ₂)	33.80	39.50		
Low (D ₃)	39.35	37.06		

Significance levels $df_2 = 0.05 = 3.00$

$0.01 = 4.62$

We have seen the table No.4.41 that the Interaction F for Area and Social economic status variables on Depression F value was **5.24**, which was significance at **0.01** levels. Hence, the **Ho₂₇** was rejected and it could be said that there was significant mean difference between Area and Social economic status variables & their Depression score.

We have seen the all interaction means score and concluded that the medium social economic status urban people are more depressed than other status and area people. The highest mean score **39.50** was medium social economic status urban female people. Various earlier studies have also reported there was significance difference between Statuses on Type D personality and Depression. (Zala,K.J.,2010)

H₀₂₈ There is no significance difference of Depression based on Interaction for Type of people, Sex and Area variables.

Table 4.42

Interaction F for Type of people, Sex and Area variables on Depression

Variables	A ₁ (psychosomatic patients)		A ₂ (Normal people)		F	Sig.
	B ₁ (Male)	B ₂ (Female)	B ₁ (Male)	B ₂ (Female)		
C ₁ (Rural)	53.90	39.53	26.43	25.96	96.74	0.01
C ₂ (Urban)	50.08	46.17	35.01	23.16		

Significance levels $df_1 = 0.05 = 3.85$

$0.01 = 6.66$

We have seen the table No.4.42 that the Interaction F for Type of people, Sex and Area variables on Depression F value was **96.74**, which was significance at **0.01** levels. Hence, the **H₀₂₈** was rejected and it could be said that there was significant mean difference between Sex and Area variables & their Depression score.

We have seen the all interaction means score and concluded that the rural psychosomatic male people are more depressed than other areas male and female. The highest mean score **53.90** was rural psychosomatic male people. Various earlier studies have also reported there was significance difference between psychosomatic male and female on Type D personality and Depression. (S.Herachi,2009)

Ho₂₉ There is no significance difference of Depression based on Interaction for Type of people, Sex and Social economic status variables.

Table 4.43

Interaction F for Type of people, Sex and social economic status variables on Depression

Variables	A ₁ (psychosomatic patients)		A ₂ (Normal people)		F	Significance
	B ₁ (Male)	B ₂ (Female)	B ₁ (Male)	B ₂ (Female)		
High (D ₁)	50.77	44.70	31.49	23.42	33.37	0.01
Medium (D ₂)	54.60	42.20	28.63	21.75		
Low (D ₃)	50.62	41.65	32.05	28.50		

Significance levels $df_2 = 0.05 = 3.00$
 $0.01 = 4.62$

We have seen the table No.4.43 that the Interaction F for Type of people, Sex and social economic status variables on Depression F value was **33.37**, which was significance at **0.01** levels. Hence, the **Ho₂₉** was rejected and it could be said that there was significant mean difference between Type of people, Sex and socio economic status variables & their Depression score.

We have seen the all interaction means score and concluded that the high social economic status male psychosomatic patients are more depressive than other status male and female. The highest mean score **54.60** was high social economic status male psychosomatic patients. Various earlier studies have also reported there was significance difference between psychosomatic male and female on Type D personality and Depression. (S.Herachi, 2009)

Ho₃₀ There is no significance difference of Depression based on Interaction for Sex, Area and Social economic status variables.

Table 4.44

Interaction F for Sex, Area and social economic status variables on Depression

Variables	B ₁ (Male)		B ₂ (Female)		F	Significance
	C ₁ (Rural)	C ₂ (Urban)	C ₁ (Rural)	C ₂ (Urban)		
High (D ₁)	38.00	44.25	33.85	34.27	2.09	N.S.
Medium (D ₂)	41.05	42.19	27.13	36.82		
Low (D ₃)	41.45	41.22	37.25	32.90		

Significance levels $df_2 = 0.05 = 3.00$
 $0.01 = 4.62$

We have seen the table No.4.44 that the Interaction F for Type of people, Sex and social economic status variables on Depression F value was **2.09**, which was **not significance** at **0.05** levels. Hence, the **Ho₃₀** was accepted and it could be said that there was no significant mean difference between Sex , Area and socio economic status variables & their Depression score.

The highest mean score **44.25** was High social economic status urban male. We have also seen the all interaction means score and concluded that the High social economic status urban male are more depressed than other status male and female. Various earlier studies have also reported there was significance difference between psychosomatic male and female on Type D personality and Depression but this result against various earlier studies (**S.Herachi,2009**)

Ho₃₁ There is no significance difference of Depression based on Interaction for Type of people, Area and Social economic status variables.

Table 4.45

**Interaction F for Type of people, Area and social economic status variables
Depression**

Variables	A ₁ (psychosomatic patients)		A ₂ (Normal people)		F	Sig.
	C ₁ (Rural)	C ₂ (Urban)	C ₁ (Rural)	C ₂ (Urban)		
High (D ₁)	47.64	47.83	24.22	30.69	2.66	N.S.
Medium (D ₂)	44.63	52.17	23.55	26.84		
Low (D ₃)	47.89	44.39	30.82	29.74		

Significance levels $df_2 = 0.05 = 3.00$
 $0.01 = 4.62$

We have seen the table No.4.45 that the Interaction F for Type of people, Area and social economic status variables on Depression F value was **2.66**, which was **not significance** at **0.05** levels. Hence, the **Ho₃₁** was accepted and it could be said that there was no significant mean difference between Type of people, Area and socio economic status variables & their Depression score.

The highest mean score **52.17** was medium social economic status urban psychosomatic patients. We also seen the all interaction means score and concluded that the medium social economic status urban psychosomatic patients are more depressed than other status people. Various earlier studies have also reported there was significance difference between psychosomatic male and female on Type D personality and Depression but this result against various earlier studies (**S.Herachi,2009**)

H₀₃₂ There is no significance difference of Depression based on Interaction for Type of people, Sex, Area and Social economic status variables.

Table 4.46

Interaction F for Type of people, Sex, Area and social economic status variables on Depression

Vari-ables	A ₁				A ₂				F	Sig.
	B ₁		B ₂		B ₁		B ₂			
	C ₁	C ₂	C ₁	C ₂	C ₁	C ₂	C ₁	C ₂		
High (D ₁)	49.30	52.23	45.97	43.43	26.70	36.27	21.73	25.10	9.69	0.01
Medium (D ₂)	57.33	51.87	31.93	52.47	24.76	32.50	22.33	21.17		
Low (D ₃)	55.07	46.17	40.70	42.60	27.83	36.27	33.80	23.20		

Significance levels $df_2 = 0.05 = 3.00$
 $0.01 = 4.62$

We have seen the table No.4.46 that the Interaction F for Type of people, Sex, Area and social economic status variables on Depression F value was **9.69**, which was significance at **0.01** levels. Hence, the **H₀₃₂** was rejected and it could be said that there was significant mean difference between Type of people, Sex, Area and socio economic status variables & their Depression score.

The highest mean score **57.33** was medium social economic status rural psychosomatic male patients. We also seen the all interaction means score and conclude that the medium social economic status rural psychosomatic male patients are more depressed than other status male and female. Various earlier studies have also reported

there was significance difference between psychosomatic male and female on Type D personality and Depression. (S.Herachi,2009)

Table 4.47

A L.S.D. Table for Interaction of Type of people, Sex, Area and social economic status variables on Depression

Sr.NO.	Pairs	Mean Diff.	Significance
1	A ₁ B ₁ C ₁ D ₁ vA ₁ B ₁ C ₁ D ₂	8.03	0.01
2	A ₁ B ₁ C ₁ D ₁ vA ₁ B ₁ C ₁ D ₃	5.77	0.05
3	A ₁ B ₁ C ₁ D ₁ vA ₁ B ₁ C ₂ D ₁	2.93	N.S.
4	A ₁ B ₁ C ₁ D ₁ vA ₁ B ₁ C ₂ D ₂	2.57	N.S.
5	A ₁ B ₁ C ₁ D ₁ vA ₁ B ₁ C ₂ D ₃	3.13	N.S.
6	A ₁ B ₁ C ₁ D ₁ vA ₁ B ₂ C ₁ D ₁	3.33	N.S.
7	A ₁ B ₁ C ₁ D ₁ vA ₁ B ₂ C ₁ D ₂	17.37	0.01
8	A ₁ B ₁ C ₁ D ₁ vA ₁ B ₂ C ₁ D ₃	8.60	0.01
9	A ₁ B ₁ C ₁ D ₁ vA ₁ B ₂ C ₂ D ₁	5.87	0.01
10	A ₁ B ₁ C ₁ D ₁ vA ₁ B ₂ C ₂ D ₂	3.17	N.S.
11	A ₁ B ₁ C ₁ D ₁ vA ₁ B ₂ C ₂ D ₃	6.70	0.01
12	A ₁ B ₁ C ₁ D ₁ vA ₂ B ₁ C ₁ D ₁	22.60	0.01
13	A ₁ B ₁ C ₁ D ₁ vA ₂ B ₁ C ₁ D ₂	24.54	0.01
14	A ₁ B ₁ C ₁ D ₁ vA ₂ B ₁ C ₁ D ₃	21.47	0.01
15	A ₁ B ₁ C ₁ D ₁ vA ₂ B ₁ C ₂ D ₁	13.03	0.01
16	A ₁ B ₁ C ₁ D ₁ vA ₂ B ₁ C ₂ D ₂	16.80	0.01
17	A ₁ B ₁ C ₁ D ₁ vA ₂ B ₁ C ₂ D ₃	13.03	0.01
18	A ₁ B ₁ C ₁ D ₁ vA ₂ B ₂ C ₁ D ₁	27.57	0.01
19	A ₁ B ₁ C ₁ D ₁ vA ₂ B ₂ C ₁ D ₂	26.97	0.01
20	A ₁ B ₁ C ₁ D ₁ vA ₂ B ₂ C ₁ D ₃	15.50	0.01
21	A ₁ B ₁ C ₁ D ₁ vA ₂ B ₂ C ₂ D ₁	24.20	0.01

22	$A_1B_1C_1D_1 \vee A_2B_2C_2D_2$	28.13	0.01
23	$A_1B_1C_1D_1 \vee A_2B_2C_2D_3$	26.10	0.01
24	$A_1B_1C_1D_2 \vee A_1B_1C_1D_3$	2.26	N.S.
25	$A_1B_1C_1D_2 \vee A_1B_1C_2D_1$	5.10	0.05
26	$A_1B_1C_1D_2 \vee A_1B_1C_2D_2$	5.46	0.01
27	$A_1B_1C_1D_2 \vee A_1B_1C_2D_3$	11.16	0.01
28	$A_1B_1C_1D_2 \vee A_1B_2C_1D_1$	11.36	0.01
29	$A_1B_1C_1D_2 \vee A_1B_2C_1D_2$	25.40	0.01
30	$A_1B_1C_1D_2 \vee A_1B_2C_1D_3$	16.63	0.01
31	$A_1B_1C_1D_2 \vee A_1B_2C_2D_1$	13.90	0.01
32	$A_1B_1C_1D_2 \vee A_1B_2C_2D_2$	4.86	0.05
33	$A_1B_1C_1D_2 \vee A_1B_2C_2D_3$	14.73	0.01
34	$A_1B_1C_1D_2 \vee A_2B_1C_1D_1$	30.63	0.01
35	$A_1B_1C_1D_2 \vee A_2B_1C_1D_2$	32.57	0.01
36	$A_1B_1C_1D_2 \vee A_2B_1C_1D_3$	29.50	0.01
37	$A_1B_1C_1D_2 \vee A_2B_1C_2D_1$	21.06	0.01
38	$A_1B_1C_1D_2 \vee A_2B_1C_2D_2$	24.83	0.01
39	$A_1B_1C_1D_2 \vee A_2B_1C_2D_3$	21.06	0.01
40	$A_1B_1C_1D_2 \vee A_2B_2C_1D_1$	35.60	0.01
41	$A_1B_1C_1D_2 \vee A_2B_2C_1D_2$	35.00	0.01
42	$A_1B_1C_1D_2 \vee A_2B_2C_1D_3$	23.53	0.01
43	$A_1B_1C_1D_2 \vee A_2B_2C_2D_1$	32.23	0.01
44	$A_1B_1C_1D_2 \vee A_2B_2C_2D_2$	36.16	0.01
45	$A_1B_1C_1D_2 \vee A_2B_2C_2D_3$	34.13	0.01
46	$A_1B_1C_1D_3 \vee A_1B_1C_2D_1$	2.84	N.S.
47	$A_1B_1C_1D_3 \vee A_1B_1C_2D_2$	3.20	N.S.
48	$A_1B_1C_1D_3 \vee A_1B_1C_2D_3$	8.90	0.01

49	$A_1B_1C_1D_3 \vee A_1B_2C_1D_1$	9.10	0.01
50	$A_1B_1C_1D_3 \vee A_1B_2C_1D_2$	23.14	0.01
51	$A_1B_1C_1D_3 \vee A_1B_2C_1D_3$	14.37	0.01
52	$A_1B_1C_1D_3 \vee A_1B_2C_2D_1$	11.64	0.01
53	$A_1B_1C_1D_3 \vee A_1B_2C_2D_2$	2.60	N.S.
54	$A_1B_1C_1D_3 \vee A_1B_2C_2D_3$	12.47	0.01
55	$A_1B_1C_1D_3 \vee A_2B_1C_1D_1$	28.37	0.01
56	$A_1B_1C_1D_3 \vee A_2B_1C_1D_2$	30.31	0.01
57	$A_1B_1C_1D_3 \vee A_2B_1C_1D_3$	29.24	0.01
58	$A_1B_1C_1D_3 \vee A_2B_1C_2D_1$	18.80	0.01
59	$A_1B_1C_1D_3 \vee A_2B_1C_2D_2$	25.50	0.01
60	$A_1B_1C_1D_3 \vee A_2B_1C_2D_3$	18.80	0.01
61	$A_1B_1C_1D_3 \vee A_2B_2C_1D_1$	33.34	0.01
62	$A_1B_1C_1D_3 \vee A_2B_2C_1D_2$	32.74	0.01
63	$A_1B_1C_1D_3 \vee A_2B_2C_1D_3$	21.27	0.01
64	$A_1B_1C_1D_3 \vee A_2B_2C_2D_1$	29.97	0.01
65	$A_1B_1C_1D_3 \vee A_2B_2C_2D_2$	33.90	0.01
66	$A_1B_1C_1D_3 \vee A_2B_2C_2D_3$	31.87	0.01
67	$A_1B_1C_2D_1 \vee A_1B_1C_2D_2$	0.36	N.S.
68	$A_1B_1C_2D_1 \vee A_1B_1C_2D_3$	6.06	0.01
69	$A_1B_1C_2D_1 \vee A_1B_2C_1D_1$	6.26	0.01
70	$A_1B_1C_2D_1 \vee A_1B_2C_1D_2$	20.30	0.01
71	$A_1B_1C_2D_1 \vee A_1B_2C_1D_3$	11.53	0.01
72	$A_1B_1C_2D_1 \vee A_1B_2C_2D_1$	8.80	0.01
73	$A_1B_1C_2D_1 \vee A_1B_2C_2D_2$	0.24	N.S.
74	$A_1B_1C_2D_1 \vee A_1B_2C_2D_3$	9.63	0.01
75	$A_1B_1C_2D_1 \vee A_2B_1C_1D_1$	25.53	0.01

76	$A_1B_1 C_2D_1 \vee A_2B_1C_1D_2$	27.47	0.01
77	$A_1B_1 C_2D_1 \vee A_2B_1C_1D_3$	24.40	0.01
78	$A_1B_1 C_2D_1 \vee A_2B_1C_2D_1$	15.96	0.01
79	$A_1B_1 C_2D_1 \vee A_2B_1C_2D_2$	19.73	0.01
80	$A_1B_1 C_2D_1 \vee A_2B_1C_2D_3$	15.96	0.01
81	$A_1B_1 C_2D_1 \vee A_2B_2C_1D_1$	30.50	0.01
82	$A_1B_1 C_2D_1 \vee A_2B_2C_1D_2$	29.9.	0.01
83	$A_1B_1 C_2D_1 \vee A_2B_2C_1D_3$	18.43	0.01
84	$A_1B_1 C_2D_1 \vee A_2B_2C_2D_1$	27.13	0.01
85	$A_1B_1 C_2D_1 \vee A_2B_2C_2D_2$	31.06	0.01
86	$A_1B_1 C_2D_1 \vee A_2B_2C_2D_3$	29.03	0.01
87	$A_1B_1 C_2D_2 \vee A_1B_1C_2D_3$	5.70	0.01
88	$A_1B_1 C_2D_2 \vee A_1B_2C_1D_1$	5.90	0.01
89	$A_1B_1 C_2D_2 \vee A_1B_2C_1D_2$	19.94	0.01
90	$A_1B_1 C_2D_2 \vee A_1B_2C_1D_3$	11.17	0.01
91	$A_1B_1 C_2D_2 \vee A_1B_2C_2D_1$	8.44	0.01
92	$A_1B_1 C_2D_2 \vee A_1B_2C_2D_2$	0.60	N.S.
93	$A_1B_1 C_2D_2 \vee A_1B_2C_2D_3$	9.27	0.01
94	$A_1B_1 C_2D_2 \vee A_2B_1C_1D_1$	25.17	0.01
95	$A_1B_1 C_2D_2 \vee A_2B_1C_1D_2$	27.11	0.01
96	$A_1B_1 C_2D_2 \vee A_2B_1C_1D_3$	24.04	0.01
97	$A_1B_1 C_2D_2 \vee A_2B_1C_2D_1$	15.60	0.01
98	$A_1B_1 C_2D_2 \vee A_2B_1C_2D_2$	19.37	0.01
99	$A_1B_1 C_2D_2 \vee A_2B_1C_2D_3$	15.60	0.01
100	$A_1B_1 C_2D_2 \vee A_2B_2C_1D_1$	30.14	0.01
101	$A_1B_1 C_2D_2 \vee A_2B_2C_1D_2$	29.54	0.01
102	$A_1B_1 C_2D_2 \vee A_2B_2C_1D_3$	18.07	0.01

103	$A_1B_1 C_2D_2 \vee A_2B_2C_2D_1$	26.77	0.01
104	$A_1B_1 C_2D_2 \vee A_2B_2C_2D_2$	30.70	0.01
105	$A_1B_1 C_2D_2 \vee A_2B_2C_2D_3$	28.67	0.01
106	$A_1B_1 C_2D_3 \vee A_1B_2C_1D_1$	0.20	N.S.
107	$A_1B_1 C_2D_3 \vee A_1B_2C_1D_2$	14.24	0.01
108	$A_1B_1 C_2D_3 \vee A_1B_2C_1D_3$	5.47	0.01
109	$A_1B_1 C_2D_3 \vee A_1B_2C_2D_1$	2.74	N.S.
110	$A_1B_1 C_2D_3 \vee A_1B_2C_2D_2$	6.30	0.01
111	$A_1B_1 C_2D_3 \vee A_1B_2C_2D_3$	3.57	N.S.
112	$A_1B_1 C_2D_3 \vee A_2B_1C_1D_1$	19.47	0.01
113	$A_1B_1 C_2D_3 \vee A_2B_1C_1D_2$	21.41	0.01
114	$A_1B_1 C_2D_3 \vee A_2B_1C_1D_3$	18.34	0.01
115	$A_1B_1 C_2D_3 \vee A_2B_1C_2D_1$	9.90	0.01
116	$A_1B_1 C_2D_3 \vee A_2B_1C_2D_2$	13.67	0.01
117	$A_1B_1 C_2D_3 \vee A_2B_1C_2D_3$	9.90	0.01
118	$A_1B_1 C_2D_3 \vee A_2B_2C_1D_1$	24.44	0.01
119	$A_1B_1 C_2D_3 \vee A_2B_2C_1D_2$	23.84	0.01
120	$A_1B_1 C_2D_3 \vee A_2B_2C_1D_3$	12.37	0.01
121	$A_1B_1 C_2D_3 \vee A_2B_2C_2D_1$	21.07	0.01
122	$A_1B_1 C_2D_3 \vee A_2B_2C_2D_2$	25.00	0.01
123	$A_1B_1 C_2D_3 \vee A_2B_2C_2D_3$	22.97	0.01
124	$A_1B_2 C_1D_1 \vee A_1B_2C_1D_2$	14.04	0.01
125	$A_1B_2 C_1D_1 \vee A_1B_2C_1D_3$	5.27	0.05
126	$A_1B_2 C_1D_1 \vee A_1B_2C_2D_1$	2.54	N.S.
127	$A_1B_2 C_1D_1 \vee A_1B_2C_2D_2$	6.50	0.01
128	$A_1B_2 C_1D_1 \vee A_1B_2C_2D_3$	3.37	N.S.
129	$A_1B_2 C_1D_1 \vee A_2B_1C_1D_1$	19.27	0.01

130	$A_1B_2 C_1D_1 \vee A_2B_1C_1D_2$	21.21	0.01
131	$A_1B_2 C_1D_1 \vee A_2B_1C_1D_3$	18.14	0.01
132	$A_1B_2 C_1D_1 \vee A_2B_1C_2D_1$	9.70	0.01
133	$A_1B_2 C_1D_1 \vee A_2B_1C_2D_2$	13.47	0.01
134	$A_1B_2 C_1D_1 \vee A_2B_1C_2D_3$	9.70	0.01
135	$A_1B_2 C_1D_1 \vee A_2B_2C_1D_1$	24.24	0.01
136	$A_1B_2 C_1D_1 \vee A_2B_2C_1D_2$	23.64	0.01
137	$A_1B_2 C_1D_1 \vee A_2B_2C_1D_3$	12.17	0.01
138	$A_1B_2 C_1D_1 \vee A_2B_2C_2D_1$	20.87	0.01
139	$A_1B_2 C_1D_1 \vee A_2B_2C_2D_2$	24.80	0.01
140	$A_1B_2 C_1D_1 \vee A_2B_2C_2D_3$	22.77	0.01
141	$A_1B_2 C_1D_2 \vee A_1B_2C_1D_3$	8.77	0.01
142	$A_1B_2 C_1D_2 \vee A_1B_2C_2D_1$	11.50	0.01
143	$A_1B_2 C_1D_2 \vee A_1B_2C_2D_2$	20.54	0.01
144	$A_1B_2 C_1D_2 \vee A_1B_2C_2D_3$	10.67	0.01
145	$A_1B_2 C_1D_2 \vee A_2B_1C_1D_1$	5.23	0.05
146	$A_1B_2 C_1D_2 \vee A_2B_1C_1D_2$	7.17	0.01
147	$A_1B_2 C_1D_2 \vee A_2B_1C_1D_3$	4.10	0.05
148	$A_1B_2 C_1D_2 \vee A_2B_1C_2D_1$	4.34	0.05
149	$A_1B_2 C_1D_2 \vee A_2B_1C_2D_2$	0.57	N.S.
150	$A_1B_2 C_1D_2 \vee A_2B_1C_2D_3$	4.34	0.05
151	$A_1B_2 C_1D_2 \vee A_2B_2C_1D_1$	10.20	0.01
152	$A_1B_2 C_1D_2 \vee A_2B_2C_1D_2$	9.60	0.01
153	$A_1B_2 C_1D_2 \vee A_2B_2C_1D_3$	1.87	N.S.
154	$A_1B_2 C_1D_2 \vee A_2B_2C_2D_1$	6.83	0.01
155	$A_1B_2 C_1D_2 \vee A_2B_2C_2D_2$	10.76	0.01
156	$A_1B_2 C_1D_2 \vee A_2B_2C_2D_3$	8.73	0.01

157	$A_1B_2 C_1D_3 \vee A_1B_2C_2D_1$	2.73	N.S.
158	$A_1B_2 C_1D_3 \vee A_1B_2C_2D_2$	11.77	0.01
159	$A_1B_2 C_1D_3 \vee A_1B_2C_2D_3$	1.90	N.S.
160	$A_1B_2 C_1D_3 \vee A_2B_1C_1D_1$	14.00	0.01
161	$A_1B_2 C_1D_3 \vee A_2B_1C_1D_2$	15.94	0.01
162	$A_1B_2 C_1D_3 \vee A_2B_1C_1D_3$	12.87	0.01
163	$A_1B_2 C_1D_3 \vee A_2B_1C_2D_1$	4.43	0.05
164	$A_1B_2 C_1D_3 \vee A_2B_1C_2D_2$	8.20	0.01
165	$A_1B_2 C_1D_3 \vee A_2B_1C_2D_3$	4.43	0.05
166	$A_1B_2 C_1D_3 \vee A_2B_2C_1D_1$	18.97	0.01
167	$A_1B_2 C_1D_3 \vee A_2B_2C_1D_2$	18.37	0.01
168	$A_1B_2 C_1D_3 \vee A_2B_2C_1D_3$	6.90	0.01
169	$A_1B_2 C_1D_3 \vee A_2B_2C_2D_1$	15.60	0.01
170	$A_1B_2 C_1D_3 \vee A_2B_2C_2D_2$	19.53	0.01
171	$A_1B_2 C_1D_3 \vee A_2B_2C_2D_3$	17.50	0.01
172	$A_1B_2 C_2D_1 \vee A_1B_2C_2D_2$	9.04	0.01
173	$A_1B_2 C_2D_1 \vee A_1B_2C_2D_3$	0.83	N.S.
174	$A_1B_2 C_2D_1 \vee A_2B_1C_1D_1$	16.73	0.01
175	$A_1B_2 C_2D_1 \vee A_2B_1C_1D_2$	18.67	0.01
176	$A_1B_2 C_2D_1 \vee A_2B_1C_1D_3$	15.60	0.01
177	$A_1B_2 C_2D_1 \vee A_2B_1C_2D_1$	7.16	0.01
178	$A_1B_2 C_2D_1 \vee A_2B_1C_2D_2$	10.93	0.01
179	$A_1B_2 C_2D_1 \vee A_2B_1C_2D_3$	7.16	0.01
180	$A_1B_2 C_2D_1 \vee A_2B_2C_1D_1$	21.70	0.01
181	$A_1B_2 C_2D_1 \vee A_2B_2C_1D_2$	21.10	0.01
182	$A_1B_2 C_2D_1 \vee A_2B_2C_1D_3$	9.63	0.01
183	$A_1B_2 C_2D_1 \vee A_2B_2C_2D_1$	18.33	0.01

184	$A_1B_2 C_2D_1 \vee A_2B_2C_2D_2$	22.26	0.01
185	$A_1B_2 C_2D_1 \vee A_2B_2C_2D_3$	20.23	0.01
186	$A_1B_2 C_2D_2 \vee A_1B_2C_2D_3$	9.87	0.01
187	$A_1B_2 C_2D_2 \vee A_2B_1C_1D_1$	25.77	0.01
188	$A_1B_2 C_2D_2 \vee A_2B_1C_1D_2$	27.71	0.01
189	$A_1B_2 C_2D_2 \vee A_2B_1C_1D_3$	24.64	0.01
190	$A_1B_2 C_2D_2 \vee A_2B_1C_2D_1$	16.20	0.01
191	$A_1B_2 C_2D_2 \vee A_2B_1C_2D_2$	19.97	0.01
192	$A_1B_2 C_2D_2 \vee A_2B_1C_2D_3$	16.20	0.01
193	$A_1B_2 C_2D_2 \vee A_2B_2C_1D_1$	30.74	0.01
194	$A_1B_2 C_2D_2 \vee A_2B_2C_1D_2$	30.14	0.01
195	$A_1B_2 C_2D_2 \vee A_2B_2C_1D_3$	18.67	0.01
196	$A_1B_2 C_2D_2 \vee A_2B_2C_2D_1$	27.37	0.01
197	$A_1B_2 C_2D_2 \vee A_2B_2C_2D_2$	31.30	0.01
198	$A_1B_2 C_2D_2 \vee A_2B_2C_2D_3$	29.27	0.01
199	$A_1B_2 C_2D_3 \vee A_2B_1C_1D_1$	15.90	0.01
200	$A_1B_2 C_2D_3 \vee A_2B_1C_1D_2$	17.84	0.01
201	$A_1B_2 C_2D_3 \vee A_2B_1C_1D_3$	14.77	0.01
202	$A_1B_2 C_2D_3 \vee A_2B_1C_2D_1$	6.33	0.01
203	$A_1B_2 C_2D_3 \vee A_2B_1C_2D_2$	10.10	0.01
204	$A_1B_2 C_2D_3 \vee A_2B_1C_2D_3$	6.33	0.01
205	$A_1B_2 C_2D_3 \vee A_2B_2C_1D_1$	20.87	0.01
206	$A_1B_2 C_2D_3 \vee A_2B_2C_1D_2$	20.27	0.01
207	$A_1B_2 C_2D_3 \vee A_2B_2C_1D_3$	8.80	0.01
208	$A_1B_2 C_2D_3 \vee A_2B_2C_2D_1$	17.50	0.01
209	$A_1B_2 C_2D_3 \vee A_2B_2C_2D_2$	21.43	0.01
210	$A_1B_2 C_2D_3 \vee A_2B_2C_2D_3$	19.40	0.01

211	$A_2B_1 C_1D_1 \vee A_2B_1C_1D_2$	1.94	N.S.
212	$A_2B_1 C_1D_1 \vee A_2B_1C_1D_3$	1.13	N.S.
213	$A_2B_1 C_1D_1 \vee A_2B_1C_2D_1$	9.57	0.01
214	$A_2B_1 C_1D_1 \vee A_2B_1C_2D_2$	5.80	0.01
215	$A_2B_1 C_1D_1 \vee A_2B_1C_2D_3$	9.57	0.01
216	$A_2B_1 C_1D_1 \vee A_2B_2C_1D_1$	4.97	0.05
217	$A_2B_1 C_1D_1 \vee A_2B_2C_1D_2$	4.37	0.05
218	$A_2B_1 C_1D_1 \vee A_2B_2C_1D_3$	7.10	0.01
219	$A_2B_1 C_1D_1 \vee A_2B_2C_2D_1$	1.60	N.S.
220	$A_2B_1 C_1D_1 \vee A_2B_2C_2D_2$	5.53	0.01
221	$A_2B_1 C_1D_1 \vee A_2B_2C_2D_3$	3.50	N.S.
222	$A_2B_1 C_1D_2 \vee A_2B_1C_1D_3$	3.07	N.S.
223	$A_2B_1 C_1D_2 \vee A_2B_1C_2D_1$	11.51	0.01
224	$A_2B_1 C_1D_2 \vee A_2B_1C_2D_2$	7.24	0.01
225	$A_2B_1 C_1D_2 \vee A_2B_1C_2D_3$	11.51	0.01
226	$A_2B_1 C_1D_2 \vee A_2B_2C_1D_1$	3.03	N.S.
227	$A_2B_1 C_1D_2 \vee A_2B_2C_1D_2$	2.43	N.S.
228	$A_2B_1 C_1D_2 \vee A_2B_2C_1D_3$	9.04	0.01
229	$A_2B_1 C_1D_2 \vee A_2B_2C_2D_1$	0.34	N.S.
230	$A_2B_1 C_1D_2 \vee A_2B_2C_2D_2$	3.59	N.S.
231	$A_2B_1 C_1D_2 \vee A_2B_2C_2D_3$	1.56	N.S.
232	$A_2B_1 C_1D_2 \vee A_2B_1C_2D_1$	8.44	0.01
233	$A_2B_1 C_1D_3 \vee A_2B_1C_2D_2$	4.67	0.05
234	$A_2B_1 C_1D_3 \vee A_2B_1C_2D_3$	8.44	0.01
235	$A_2B_1 C_1D_3 \vee A_2B_2C_1D_1$	6.10	0.01
236	$A_2B_1 C_1D_3 \vee A_2B_2C_1D_2$	5.50	0.01
237	$A_2B_1 C_1D_3 \vee A_2B_2C_1D_3$	5.97	0.01

238	$A_2B_1 C_1D_3 \vee A_2B_2C_2D_1$	2.73	N.S.
239	$A_2B_1 C_1D_3 \vee A_2B_2C_2D_2$	6.66	0.01
240	$A_2B_1 C_1D_3 \vee A_2B_2C_2D_3$	4.63	0.05
241	$A_2B_1 C_2D_1 \vee A_2B_1C_2D_2$	3.77	N.S.
242	$A_2B_1 C_2D_1 \vee A_2B_1C_2D_3$	0.00	N.S.
243	$A_2B_1 C_2D_1 \vee A_2B_2C_1D_1$	14.54	0.01
244	$A_2B_1 C_2D_1 \vee A_2B_2C_1D_2$	13.94	0.01
245	$A_2B_1 C_2D_1 \vee A_2B_2C_1D_3$	2.47	N.S.
246	$A_2B_1 C_2D_1 \vee A_2B_2C_2D_1$	11.17	0.01
247	$A_2B_1 C_2D_1 \vee A_2B_2C_2D_2$	15.10	0.01
248	$A_2B_1 C_2D_1 \vee A_2B_2C_2D_3$	13.07	0.01
249	$A_2B_1 C_2D_2 \vee A_2B_1C_2D_3$	3.77	N.S.
250	$A_2B_1 C_2D_2 \vee A_2B_2C_1D_1$	10.77	0.01
251	$A_2B_1 C_2D_2 \vee A_2B_2C_1D_2$	10.17	0.01
252	$A_2B_1 C_2D_2 \vee A_2B_2C_1D_3$	1.30	N.S.
253	$A_2B_1 C_2D_2 \vee A_2B_2C_2D_1$	4.40	0.05
254	$A_2B_1 C_2D_2 \vee A_2B_2C_2D_2$	11.33	0.01
255	$A_2B_1 C_2D_2 \vee A_2B_2C_2D_3$	9.30	0.01
256	$A_2B_1 C_2D_3 \vee A_2B_2C_1D_1$	14.54	0.01
257	$A_2B_1 C_2D_3 \vee A_2B_2C_1D_2$	13.94	0.01
258	$A_2B_1 C_2D_3 \vee A_2B_2C_1D_3$	2.47	N.S.
259	$A_2B_1 C_2D_3 \vee A_2B_2C_2D_1$	11.17	0.01
260	$A_2B_1 C_2D_3 \vee A_2B_2C_2D_2$	15.10	0.01
261	$A_2B_1 C_2D_3 \vee A_2B_2C_2D_3$	13.07	0.01
262	$A_2B_2 C_1D_1 \vee A_2B_2C_1D_2$	0.60	N.S.
263	$A_2B_2 C_1D_1 \vee A_2B_2C_1D_3$	12.03	0.01
264	$A_2B_2 C_1D_1 \vee A_2B_2C_2D_1$	3.37	N.S.

265	$A_2B_2 C_1D_1 \vee A_2B_2C_2D_2$	0.56	N.S.
266	$A_2B_2 C_1D_1 \vee A_2B_2C_2D_3$	1.47	N.S.
267	$A_2B_2 C_1D_2 \vee A_2B_2C_1D_3$	11.47	0.01
268	$A_2B_2 C_1D_2 \vee A_2B_2C_2D_1$	2.77	N.S.
269	$A_2B_2 C_1D_2 \vee A_2B_2C_2D_2$	1.16	N.S.
270	$A_2B_2 C_1D_2 \vee A_2B_2C_2D_3$	0.87	N.S.
271	$A_2B_2 C_1D_3 \vee A_2B_2C_2D_1$	8.70	0.01
272	$A_2B_2 C_1D_3 \vee A_2B_2C_2D_2$	12.63	0.01
273	$A_2B_2 C_1D_3 \vee A_2B_2C_2D_3$	10.60	0.01
274	$A_2B_2 C_2D_1 \vee A_2B_2C_2D_2$	3.93	N.S.
275	$A_2B_2 C_2D_1 \vee A_2B_2C_2D_3$	1.90	N.S.
276	$A_2B_2 C_2D_2 \vee A_2B_2C_2D_3$	2.03	N.S.

Sig. Levels of L.S.D. 0.05=4.02

0.01=5.42

We have seen the table no.4.47 A L.S.D. Table for Interaction of Type of people, Sex, Area and social economic status variables on Depression that we have seen the result and said that most of pairs are significance at **0.01** levels. We also said that the **highest mean difference** between $A_1B_1C_1D_2 \vee A_2B_2C_2D_2$ (**medium social economic status rural psychosomatic male V medium social economic status urban normal Female**) was **36.16** so we say that it was very big difference. The **Lowest means difference** between $A_1B_1 C_1D_2 \vee A_2B_2C_2D_2$ (**medium social economic status rural psychosomatic male V medium social economic status urban normal male**) was **0.00** on Depression. Hence seen the all result and concluded that either all variables (Factor: Like as Type of people, Sex, Area and Social economic status) are affected on Depression or Depression had been affected them. Various earlier studies have also reported there was significance difference between psychosomatic male and female for different social economic status on Type D personality and Depression. (S.Herachi,2009, S.R.THOMAS, 2009,Zala,K.J.2010).

Ho₃₃ There is no significance difference of Depression based on Type of Family variables.

Table 4.48

The Respondents Demographic variables and their t- test for Depression

Family	N	Mean	S.D.	t	Sig.
Joint family	428	37.24	14.28	0.25	N.S.
Divided family	292	37.50	14.00		

Significance levels 0.05=1.97

0.01=2.59

We have seen the table no.4.48‘t’ calculation for depression between joint and divided family people that the t value was **0.25**, which was **not significance** at **0.05** levels. Hence, the **Ho₃₁** was accepted and it could be said that there was no significant mean difference between Type of family variables & their depression score. But we compare mean score we say that a divided family people are little more depressed than joint family people.

Ho₃₄ There is no significance difference of Depression based on Type of Income variables.

Table 4.49

The Respondents Demographic variables and their t- test for Depression

Veariables (Type of Income)	N	Mean	S.D.	t	Sig.
50000 To 300000	220	34.98	12.97	3.56	0.01**
300001 To 550000	90	41.00	14.79		

Significance levels 0.05=1.97

0.01=2.59

We have seen the table no.4.49't' calculation for depression between different income people that the t value was **3.56**, which was significance at **0.01** levels. Hence, the **H₀₃₂** was rejected and it could be said that there was significant mean difference between Type of income variables & their depression score. But we compare mean score we said that the people which income between 300001 to 550000 are little more depressed than the people whose income below 300000.

4.5 The Respondents socio personal variables and their 2x2x2x3 factorial design for Ego strength :

While the data collection was completed then F test ANOVAs, t-test, L.S.D. and correlation applied to check significance difference between psychosomatic patients and Normal people. So here first of all we see the mean and S.D. score for independent variables on ego strength, after then we see the result for ANOVAs, t-test., L.S.D. and correlation between psychosomatic diseases and normal people. So all result and result discussion are as under;

Table 4.50

The Mean and Standard deviation for independent variables on Ego strength

Vari-ables	A ₁				A ₂			
	B ₁		B ₂		B ₁		B ₂	
	C ₁	C ₂	C ₁	C ₂	C ₁	C ₂	C ₁	C ₂
(D ₁)	$\Sigma Z=520$ Mean =17.33 N=30 S.D. =3.73	$\Sigma Z=334$ Mean =11.13 N=30 S.D. =3.60	$\Sigma Z=357$ Mean =11.90 N=30 S.D. =4.05	$\Sigma Z=296$ Mean =9.87 N=30 S.D. =3.91	$\Sigma Z=348$ Mean =11.60 N=30 S.D. =3.69	$\Sigma Z=326$ Mean =10.87 N=30 S.D. =3.55	$\Sigma Z=394$ Mean =13.13 N=30 S.D. =4.00	$\Sigma Z=386$ Mean =12.87 N=30 S.D. =3.87
(D ₂)	$\Sigma Z=498$ Mean =16.60 N=30 S.D. =3.87	$\Sigma Z=398$ Mean =13.27 N=30 S.D. =3.73	$\Sigma Z=300$ Mean =10.00 N=30 S.D. =4.18	$\Sigma Z=325$ Mean =10.83 N=30 S.D. =4.04	$\Sigma Z=485$ Mean =16.17 N=30 S.D. =3.83	$\Sigma Z=467$ Mean =15.57 N=30 S.D. =3.69	Mean =10.50 N=30 S.D. =4.14	Mean =11.50 N=30 S.D. =4.00
(D ₃)	$\Sigma Z=387$ Mean =12.90 N=30 S.D. =3.79	$\Sigma Z=357$ Mean =11.90 N=30 S.D. =3.65	$\Sigma Z=289$ Mean =9.63 N=30 S.D. =4.10	$\Sigma Z=311$ Mean =10.36 N=30 S.D. =3.96	$\Sigma Z=369$ Mean =12.30 N=30 S.D. =3.74	$\Sigma Z=480$ Mean =16.00 N=30 S.D. =3.61	$\Sigma Z=369$ Mean =12.30 N=30 S.D. =4.01	$\Sigma Z=244$ Mean =8.13 N=30 S.D. =3.92

which, A₁= psychosomatic people,

A₂=Normal people

B₁= Male

B₂= Female

C₁= Rural

C₂= Urban

D₁=High socio economic status

D₂= Medium socio economic status

D₃= Low socio economic status

We have seen the table no.4.50 the Mean and Standard deviation for independent variables on Ego strength that the average mean score for Normal people were good strength ness their ego than psychosomatic diseases people. The highest mean score 17.33 was high socio economic status psychosomatic diseases rural male people and lowest mean score 8.13 was low socio economic status normal urban female people.

so we have see the all result and conclude that the normal people were good strength ness their ego than psychosomatic diseases people.

Table 4.51

F calculation for Ego strength (2x2x2x3 factorial designed)

Variables	S.S	d.f.	M.S.	F	Sig.
Ass (Type of people)	21.70	1	21.70	2.02	N.S.
Bss (Sex)	181.00	1	181.00	16.88	0.01
Css (Area)	1386.11	1	1386.11	129.30	0.01
Dss (Social Ecoi Status)	199.19	2	99.60	9.29	0.01
ABss	141.34	1	141.34	13.18	0.01
ACss	63.01	1	63.01	5.88	0.05
ADss	62.44	2	31.22	2.91	N.S.
Bess	26.84	1	26.84	2.50	N.S.
BDss	17.59	2	8.80	0.82	N.S.
CDss	287.58	2	143.79	13.41	0.01
ABCss	359.84	1	359.84	33.57	0.01
ABDss	120.04	2	60.02	5.60	0.01
BCDss	405.55	2	202.78	18.92	0.01
CDAss	322.16	2	161.08	15.03	0.01
ABCDss	181.34	2	90.67	8.46	0.01
Wss	7463.09	696	10.72		
Tss	11238.82	719			

Significance levels df_1 0.05 = 3.85

0.01=6.66

df_2 0.05 = 3.00

0.01 = 4.62

We have seen the table no.4.51 that F value of Type of people variables is **2.02**, which was **not significance** at **0.05** levels. The F value of sex variables was **16.88**, which was significance at **0.01** levels. The F value of Area variables was **129.30**, which was significance at **0.01** levels. The F value of Social economics status variables was **9.29**, which was significance at **0.01** levels. The F value of Interaction to Type of people and Sex variables was **13.18**, which was significance at **0.01** levels. The F value of Interaction to Type of people and Area variables was **5.88**, which was significance at **0.05** levels. The F value of Interaction to Type of people and Social economics status variables was **2.91**, which was **not significance** at **0.05** levels.

The F value of Interaction to Sex and Area variables was **2.50**, which was **not significance** at **0.05** levels. The F value of Interaction to Sex and Social economics status variables was **0.82**, which was **not significance** at **0.05** levels. The F value of Interaction to Area and Social economics status variables was **13.41**, which was significance at **0.01** levels. The F value of Interaction to Type of people, Sex and Area variables is **33.57**, which is significance at **0.01** levels. The F value of Interaction to Type of people, Sex and Social economics status variables was **5.60**, which was significance at **0.01** levels. The F value of Interaction to Sex, Area and Social economics status variables was **18.92**, which was significance at **0.01** levels. The F value of Interaction to Type of people, Area and Social economics status variables was **15.03**, which was significance at **0.01** levels. The F value of Interaction to Type of people, Sex, Area and Social economics status variables was **8.46** which was significance at **0.01** levels.

So we have seen the result and said that most result was significance at **0.01** levels. Thus we said that the people of psychosomatic are more Ego strength than Normal people. Hence we concluded that Ego strength was also affected factor for psychosomatic patients. Various earlier studies have also reported there was significance difference between psychosomatic people and normal people on Ego strength. **(L,v,waugh & etal. 2010)**

H₀₃₅ There is no significance difference of Ego strength based on Type of people variables.

Table 4.52

The mean and F value for Type of people variables on Ego strength

No.	Variables	N	Mean	F	Significance
1	Psychosomatic patients (A ₁)	360	12.14	2.02	N.S.
2	Normal people (A ₂)	360	12.58		

Significance levels d.f₁ 0.05 = 3.85

0.01= 6.66

Table 4.53

L.S.D. for Type of people variables on Ego strength

No.	Variables	N	Mean diff.	Significance
1	Psychosomatic patients (A ₁)	360	0.44	N.S.
2	Normal people (A ₂)	360		

Significance levels for L.S.D. =0.05=0.47

0.01=0.62

We have seen the table No. **4.52** that the mean for psychosomatic patients was **12.14** and the mean for normal people was **12.58**, so the mean different between psychosomatic patients and normal people on Ego strength was **0.44**. The F value for Type of people variables was **2.02**, which **not significance** at **0.05** levels. Hence, the **H₀₃₅** was accepted and it could be said that there was no significant mean difference between Type of people & their Ego strength score. So we have seen result and said that the people of psychosomatic are more Ego strength than Normal people. Hence we conclude that Ego strength was very affected factor for psychosomatic patients.

We have seen the table No. 4.53 L.S.D. for Type of people variables on Ego strength that the mean different between Psychosomatic patients Normal people on Ego strength was **0.44**, which, **not Significance** at **0.05** levels. Thus we concluded that there was no big difference between the people of psychosomatic and normal people. Various earlier studies have also reported there was significance difference between psychosomatic people and normal people on Ego strength, so this result is against for Various studies.(L,v,waugh & etal. 2010)

Ho₃₆ There is no significance difference of Ego strength based on Sex variables.

Table 4.54

The mean and F value for Sex variables on Ego strength

No.	Variables (Sex)	N	Mean	F	Sig.
1	Male (B ₁)	360	13.80	16.88	0.01
2	Female (B ₂)	360	10.92		

Significance levels $df_1 = 0.05 = 3.85$

$0.01 = 6.66$

Table 4.55

L.S.D. for Type of Sex variables on Ego strength

No.	Variables(Sex)	N	Mean diff.	Sig.
1	Male (B ₁)	360	2.88	0.01
2	Female (B ₂)	360		

Significance levels for L.S.D. $= 0.05 = 0.47$

$0.01 = 0.62$

We have seen the table No. 4.54 that the mean for Male people was **13.80** and the mean for Female people was **10.92**, so the mean different between Male and Female people on Ego strength was **2.88**. The F value for sex variables was **16.88**, which was

significance at **0.01** levels. Hence, the **H₀₃₆** was rejected and it could be said that there was significant mean difference between Sex variables & their Ego strength score. So we have seen the result and said that the Male people are more Ego strength than Female people. Hence we concluded that Ego strength was very affected factor for Male people.

We have seen the table No. **4.55** L.S.D. for Type of Sex variables on Ego strength that the mean different between Male and Female people on Ego strength was **2.88**, which was Significance at **0.01** levels. Thus we concluded that the Male people are more Ego strength than Female people. Various earlier studies have also reported there was significance difference between male and female on Ego strength. (**Rana,s,m,2009**)

H₀₃₇ **There is no significance difference of Ego strength based on Area variables.**

Table 4.56

The mean and F value for Area variables on Ego strength

No.	Variables(Area)	N	Mean	F	Significance
1	Rural people (c ₁)	360	12.86	129.30	0.01
2	Urban people (c ₂)	360	11.86		

Significance levels df₁ =0.05=3.85

0.01=6.66

Table 4.57

L.S.D. for Type of Area variables on Ego strength

No.	Variables(Area)	N	Mean diff.	Sig.
1	Rural people (c ₁)	360	1.00	0.01
2	Urban people (c ₂)	360		

Significance levels for L.S.D. =0.05=0.47

0.01=0.62

We have seen the table No. **4.56** that the mean for Rural people was **12.86** and the mean for Urban people was **11.86**, so the mean different between Rural people and Urban people on Depression was **1.00**, The F value for Area variables was **129.30**, which is significance at **0.01** levels. Hence, the **H₀₃₇** was rejected and it could be said that there was significant mean difference between Area variables & their Ego strength score. So we have seen the result and said that the rural people are more Ego strength than urban people. Hence we concluded that Ego strength was very affected factor for rural people.

We have seen the table No **4.57** L.S.D. for Type of Area variables on Ego strength that the mean different between Rural people and Urban people on Ego strength was **1.00**, which was Significance at **0.01** levels. Thus we concluded that the rural people are more Ego strength than urban people. Various earlier studies have also reported there was significance difference between male and female on Ego strength. **(Rana,s,m,2009)**

H₀₃₈ There is no significance difference of Ego strength based on Social economics status variables.

Table 4.58

The mean and F value for Social economic status variables on Ego strength

No.	Variables (Social economic status)	N	Mean	F	Significance
1	High (D ₁)	240	12.34	9.29	0.01
2	Medium (D ₂)	240	13.06		
3	Low(D ₃)	240	11.69		

Significance levels $df_2 = 0.05 = 3.00$

$0.01 = 4.62$

We have seen the table No **4.58** that the mean for High social economic status people was **12.34**, the mean for medium social economic status people was **13.06** and the mean for Low social economic status people was **11.69**. So the mean different between High social economic status and Medium social economics status people was **0.72** and the mean different between High social economic status and Low social economics status

people was **0.65** and then the mean different between medium social economic status and Low social economics status people was **1.37**. So we have seen the Result and said that it is minor mean difference to each other status people. The F value for Social economic status variables was **9.29**, which is significance at **0.01** levels. Hence, the **H₀₃₈** was rejected and it could be said that there was significant mean difference between Social economic status variables & their Ego strength score.

Hence we conclude that Ego strength was very affected factor for medium social economic status people. Various earlier studies have also reported there was significance difference between male and female on Ego strength. **(Rana,s,m,2009)**

H₀₃₉ There is no significance difference of Ego strength based on Interaction for type of people and Sex variables.

Table 4.59

Interaction F for type of people and Sex variables on Ego strength

Variables	A₁ (psychosomatic patients)	A₂ (Normal people)	F	Sig.
B₁(Male)	13.86	13.75	13.18	0.01
B₂(Female)	10.43	11.41		

Significance levels $df_1 = 0.05 = 3.85$
 $0.01 = 6.66$

We have seen the table No.4.59 that the Interaction F for Type of people and Sex variables on Ego strength F value was 13.18, which was significance at 0.01 levels. Hence, the **H₀₃₉** was rejected and it could be said that there was significant mean difference between Type of people and sex variables & their Ego strength score.

We have seen the all interaction means score and concluded that the psychosomatic people are more Ego strength than Normal people. The highest mean score 13.86 was psychosomatic male people. So we have said that psychosomatic male people are more Ego strength people. Various earlier studies have also reported there was

significance difference between psychosomatic people and normal people on Ego strength. (L,v,waugh & etal. 2010)

Ho₄₀ There is no significance difference of Ego strength based on Interaction for type of people and Area variables.

Table 4.60

Interaction F for type of people and Area variables on Ego strength

Variables	A ₁ (psychosomatic patients)	A ₂ (Normal people)	F	Sig.
C ₁ (Rural)	13.06	12.67	5.88	0.05
C ₂ (Urban)	11.23	12.49		

Significance levels $df_1 = 0.05 = 3.85$

$0.01 = 6.66$

We have seen the table No.4.60 that the Interaction F for Type of people and Area variables on Ego strength F value was **5.88**, which was significance at **0.05** levels. Hence, the **Ho₄₀** was rejected and it could be said that there was significant mean difference between Type of people and Area variables & their Ego strength score.

We have seen the all interaction means score and concluded that the psychosomatic people are more Ego strength than Normal people. The highest mean score **13.06** was psychosomatic rural people. So we have said that patients for psychosomatic rural people are more Ego strength people. Various earlier studies have also reported there was significance difference between male and female on Ego strength. (Rana,s,m,2009)

Ho₄₁ There is no significance difference of Ego strength based on Interaction for type of people and social economic status variables.

Table 4.61

Interaction F for type of people and Social economic status variables on Ego strength

Variables (social economic status)	A ₁ (psychosomatic patients)	A ₂ (Normal people)	F	Sig.
High (D ₁)	12.56	12.12	2.91	N.S.
Medium (D ₂)	12.68	13.44		
Low (D ₃)	8.70	12.18		

Significance levels $df_2 = 0.05 = 3.00$
 $0.01 = 4.62$

We have seen the table No.4.61 that the Interaction F for Type of people and Social economic status variables on Ego strength F value was **2.91**, which was **not significance** at **0.05** levels. Hence, the **Ho₄₁** was accepted and it could be said that there was no significant mean difference between Type of people and Social economic status variables & their Ego strength score.

We have also seen the all interaction means score and concluded that the Medium social economic status Normal people are more Ego strength than other status people. The highest mean score **13.44** was Medium social economic status Normal people. Various earlier studies have also reported there was significance difference between psychosomatic people and normal people on Ego strength. **(L,v,waugh & etal. 2010)**

Ho₄₂ There is no significance difference of Ego strength based on Interaction for Sex and Area variables.

Table 4.62

Interaction F for Sex and Area variables on Ego strength

Variables	B ₁ (Male)	B ₂ (Female)	F	Sig.
C ₁ (Rural)	14.48	11.24	2.50	N.S.
C ₂ (Urban)	13.12	10.59		

Significance levels df1 =0.05=3.85

0.01=6.66

We have seen the table No.4.62 that the Interaction F for Sex and Area variables on Ego strength F value was **2.50**, which was **not significance** at **0.05** levels. Hence, the **Ho₄₂** was accepted and it could be said that there was no significant mean difference between Type of people and Area variables & their Ego strength score.

We have seen the all interaction means score and concluded that the rural male people are more Ego strength than urban area people. The highest mean score **14.48** was rural male people. So we have also said that rural male people are more Ego strength than urban area people. Various earlier studies have also reported there was significance difference between male and female on Ego strength. **(Rana,s,m,2009)**

Ho₄₃ There is no significance difference of Ego strength based on Interaction for Sex and social economic status variables.

Table 4.63

Interaction F Sex and Social economic status variables on Ego strength

Variables (social economic status)	B ₁ (Male)	B ₂ (Female)	F	Sig.
High (D ₁)	12.73	11.94	0.82	N.S.
Medium (D ₂)	15.40	10.71		
Low (D ₃)	13.28	10.11		

Significance levels $df_2 = 0.05 = 3.00$

$0.01 = 4.62$

We have seen the table No.4.63 that the Interaction F for Sex and Social economic status variables on Ego strength F value was **0.82**, which was not significance at **0.05** levels. Hence, the **Ho₄₃** was accepted and it could be said that there was no significant mean difference between Sex and Social economic status variables & their Ego strength score.

We have also seen all interaction means score and concluded that the Medium social economic status male people are more Ego strength than other status people. The highest mean score **15.40** was Medium social economic status male people. Various earlier studies have also reported there was significance difference between psychosomatic people and normal people on Ego strength. **(L,v,waugh & etal. 2010)**

Ho₄₄ There is no significance difference of Ego strength based on Interaction for Area and social economic status variables

Table 4.64

Interaction F for Area and Social economic status variables on Ego strength

Variables (social economic status)	C ₁ (Rural)	C ₂ (Urban)	F	Sig.
High (D ₁)	13.49	11.19	13.41	0.01
Medium (D ₂)	13.32	12.79		
Low (D ₃)	11.78	11.60		

Significance levels $df_2 = 0.05 = 3.00$
 $0.01 = 4.62$

We have seen the table No.4.64 that the Interaction F for Area and Social economic status variables on Ego strength F value was **13.41**, which was significance at **0.01** levels. Hence, the **Ho₄₄** was rejected and it could be said that there was significant mean difference between Sex and Social economic status variables & their Ego strength score.

We have also seen all interaction means score and conclude that the High social economic status rural people are more Ego strength than other status and area people. The highest mean score **13.49** was High social economic status rural people. So we have said that High social economic status rural people are more Ego strength than other status and area people. Various earlier studies have also reported there was significance difference between male and female on Ego strength. **(Rana,s,m,2009)**

Ho₄₅ There is no significance difference of Ego strength based on Interaction for Type of people, Sex and Area variables.

Table 4.65

Interaction F for Type of people, Sex and Area variables on Ego strength

Variables	A ₁ (psychosomatic patients)		A ₂ (Normal people)		F	Sig.
	B ₁ (Male)	B ₂ (Female)	B ₁ (Male)	B ₂ (Female)		
C ₁ (Rural)	15.61	10.51	13.36	11.98	33.57	0.01
C ₂ (Urban)	12.10	10.36	14.14	10.83		

Significance levels $df_1 = 0.05 = 3.85$

$0.01 = 6.66$

We have seen the table No.4.65 that the Interaction F for Type of people, Sex and Area variables on Ego strength F value was **33.57**, which was significance at **0.01** levels. Hence, the **Ho₄₅** was rejected and it could be said that there was significant mean difference between Type of people, Sex and Area variables & their Ego strength score.

We have also seen the all interaction means score and concluded that the rural psychosomatic male people are more Ego strength than other areas male and female. The highest mean score **15.61** was rural psychosomatic male people. Various earlier studies have also reported there was significance difference between male and female on Ego strength. **(Rana,s,m,2009)**

Ho₄₆ There is no significance difference of Ego strength based on Interaction for Type of people, Sex and Social economic status variables.

Table 4.66

Interaction F for Type of people, Sex and social economic status variables on Ego strength

Variables	A ₁ (psychosomatic patients)		A ₂ (Normal people)		F	Sig.
	B ₁ (Male)	B ₂ (Female)	B ₁ (Male)	B ₂ (Female)		
High (D ₁)	14.23	10.89	11.24	13.00	5.60	0.01
Medium (D ₂)	14.94	13.5	15.87	11.00		
Low (D ₃)	12.4	9.99	14.15	10.22		

Significance levels $df_2 = 0.05 = 3.00$
 $0.01 = 4.62$

We have seen the table No.4.66 that the Interaction F for Type of people, Sex and social economic status variables on Ego strength F value was **5.60**, which was significance at **0.01** levels. Hence, the **Ho₄₆** was rejected and it could be said that there was significant mean difference between Type of people, Sex and Socio economic status variables & their Ego strength score.

We have also seen the all interaction means score and concluded that the medium social economic status Normal male people are more Ego strength than other status male and female people. The highest mean score **15.87** was medium social economic status Normal male people. Various earlier studies have also reported there was significance difference between psychosomatic people and normal people on Ego strength. (L,v,waugh & etal. 2010)

Ho₄₇ There is no significance difference of Ego strength based on Interaction for Sex, Area and Social economic status variables.

Table 4.67

Interaction F for Sex, Area and social economic status variables on Ego strength

Variables	B ₁ (Male)		B ₂ (Female)		F	Sig.
	C ₁ (Rural)	C ₂ (Urban)	C ₁ (Rural)	C ₂ (Urban)		
High (D ₁)	14.47	11.00	12.52	11.37	18.92	0.01
Medium (D ₂)	16.39	14.42	10.25	11.17		
Low (D ₃)	12.60	13.95	10.97	9.25		

Significance levels $df_2 = 0.05 = 3.00$

$0.01 = 4.62$

We have seen the table No.4.67 that the Interaction F for Type of people, Sex and social economic status variables on Ego strength F value was **18.92**, which was significance at **0.01** levels. Hence, the **Ho₄₇** was rejected and it could be said that there was significant mean difference between Sex, Area and Socio economic status variables & their Ego strength score.

The highest mean score **16.39** was medium social economic status rural male people. We show the all interaction means score and concluded that the medium social economic status rural male people are more Ego strength than other status male and female. Various earlier studies have also reported there was significance difference between male and female on Ego strength. (**Rana,s,m,2009, L,v,waugh & etal. 2010**)

Ho₄₈ There is no significance difference of Ego strength based on Interaction for Type of people, Area and Social economic status variables.

Table 4.68

**Interaction F for Type of people, Area and social economic status variables
Ego strength**

Variables	A ₁ (psychosomatic patients)		A ₂ (Normal people)		F	Sig.
	C ₁ (Rural)	C ₂ (Urban)	C ₁ (Rural)	C ₂ (Urban)		
High (D ₁)	14.62	10.50	12.37	11.87	15.03	0.01
Medium (D ₂)	16.39	12.05	13.34	13.54		
Low (D ₃)	12.6	11.13	12.30	12.07		

Significance levels $df_2 = 0.05 = 3.00$
 $0.01 = 4.62$

We have seen the table No.4.68 that the Interaction F for Type of people, Area and social economic status variables on Ego strength F value was **15.03**, which was significance at **0.01** levels. Hence, the **Ho₄₈** was rejected and it could be said that there was significant mean difference between Type of people, Area and Socio economic status variables & their Ego strength score.

The highest mean score **16.39** was medium social economic status rural psychosomatic patients. We show the all interaction means score and conclude that the medium social economic status rural psychosomatic patients are more Ego strength than other status people. Various earlier studies have also reported there was significance difference between male and female on Ego strength. **(Rana,s,m,2009, L,v,waugh & etal. 2010)**

Ho₄₉ There is no significance difference of Ego strength based on Interaction for Type of people, Sex, Area and Social economic status variables.

Table 4.69

Interaction F for Type of people, Sex, Area and social economic status variables on Ego strength

Var- i- ables	A ₁				A ₂				F	Sig.
	B ₁		B ₂		B ₁		B ₂			
	C ₁	C ₂	C ₁	C ₂	C ₁	C ₂	C ₁	C ₂		
High (D ₁)	17.33	11.13	11.90	9.87	11.60	10.87	13.13	12.87	8.46	0.01
Medium (D ₂)	16.60	13.27	10.00	10.83	16.17	15.57	10.50	11.50		
Low (D ₃)	12.90	11.90	9.63	10.36	12.30	16.00	12.30	8.13		

Significance levels $df_2 = 0.05 = 3.00$

$0.01 = 4.62$

We have seen the table No.4.69 that the Interaction F for Type of people, Sex, Area and social economic status variables on Ego strength F value was **8.46**, which was significance at **0.01** levels. Hence, the **Ho₄₉** was rejected and it could be said that there was significant mean difference between Type of people, Sex, Area and Socio economic status variables & their Ego strength score.

The highest mean score **16.60** was medium social economic status rural psychosomatic male patients. We have also seen the all interaction means score and conclude that the medium social economic status rural psychosomatic male patients are more Ego strength than other status male and female people. Various earlier studies have also reported there was significance difference between male and female on Ego strength. **(Rana,s,m,2009, L,v,waugh & etal. 2010)**

Table 4.70

A L.S.D. Table for Interaction of Type of people, Sex, Area and social economic status variables on Ego strength

Sr.NO.	Pairs	Mean Diff.	Significance
1	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₁ C ₁ D ₂	0.77	N.S.
2	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₁ C ₁ D ₃	4.43	0.01
3	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₁ C ₂ D ₁	6.20	0.01
4	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₁ C ₂ D ₂	4.06	0.01
5	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₁ C ₂ D ₃	5.43	0.01
6	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₂ C ₁ D ₁	5.43	0.01
7	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₂ C ₁ D ₂	7.33	0.01
8	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₂ C ₁ D ₃	7.70	0.01
9	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₂ C ₂ D ₁	7.46	0.01
10	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₂ C ₂ D ₂	6.50	0.01
11	A ₁ B ₁ C ₁ D ₁ v A ₁ B ₂ C ₂ D ₃	6.97	0.01
12	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₁ C ₁ D ₁	5.73	0.01
13	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₁ C ₁ D ₂	1.16	N.S.
14	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₁ C ₁ D ₃	5.03	0.01
15	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₁ C ₂ D ₁	6.46	0.01
16	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₁ C ₂ D ₂	1.76	0.05
17	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₁ C ₂ D ₃	1.33	N.S.
18	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₂ C ₁ D ₁	4.20	0.01
19	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₂ C ₁ D ₂	6.63	0.01
20	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₂ C ₁ D ₃	5.03	0.01
21	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₂ C ₂ D ₁	4.46	0.01
22	A ₁ B ₁ C ₁ D ₁ v A ₂ B ₂ C ₂ D ₂	5.83	0.01

23	$A_1B_1C_1D_1 \vee A_2B_2C_2D_3$	9.20	0.01
24	$A_1B_1C_1D_2 \vee A_1B_1C_1D_3$	3.70	0.01
25	$A_1B_1C_1D_2 \vee A_1B_1C_2D_1$	5.47	0.01
26	$A_1B_1C_1D_2 \vee A_1B_1C_2D_2$	3.33	0.01
27	$A_1B_1C_1D_2 \vee A_1B_1C_2D_3$	4.70	0.01
28	$A_1B_1C_1D_2 \vee A_1B_2C_1D_1$	4.70	0.01
29	$A_1B_1C_1D_2 \vee A_1B_2C_1D_2$	6.60	0.01
30	$A_1B_1C_1D_2 \vee A_1B_2C_1D_3$	6.97	0.01
31	$A_1B_1C_1D_2 \vee A_1B_2C_2D_1$	6.73	0.01
32	$A_1B_1C_1D_2 \vee A_1B_2C_2D_2$	5.77	0.01
33	$A_1B_1C_1D_2 \vee A_1B_2C_2D_3$	6.24	0.01
34	$A_1B_1C_1D_2 \vee A_2B_1C_1D_1$	5.00	0.01
35	$A_1B_1C_1D_2 \vee A_2B_1C_1D_2$	0.43	N.S.
36	$A_1B_1C_1D_2 \vee A_2B_1C_1D_3$	4.30	0.01
37	$A_1B_1C_1D_2 \vee A_2B_1C_2D_1$	5.73	0.01
38	$A_1B_1C_1D_2 \vee A_2B_1C_2D_2$	1.03	N.S.
39	$A_1B_1C_1D_2 \vee A_2B_1C_2D_3$	0.60	N.S.
40	$A_1B_1C_1D_2 \vee A_2B_2C_1D_1$	3.47	0.01
41	$A_1B_1C_1D_2 \vee A_2B_2C_1D_2$	6.10	0.01
42	$A_1B_1C_1D_2 \vee A_2B_2C_1D_3$	4.30	0.01
43	$A_1B_1C_1D_2 \vee A_2B_2C_2D_1$	3.73	0.01
44	$A_1B_1C_1D_2 \vee A_2B_2C_2D_2$	5.10	0.01
45	$A_1B_1C_1D_2 \vee A_2B_2C_2D_3$	7.97	0.01
46	$A_1B_1C_1D_3 \vee A_1B_1C_2D_1$	1.77	0.05
47	$A_1B_1C_1D_3 \vee A_1B_1C_2D_2$	0.37	N.S.
48	$A_1B_1C_1D_3 \vee A_1B_1C_2D_3$	1.00	N.S.
49	$A_1B_1C_1D_3 \vee A_1B_2C_1D_1$	1.00	N.S.

50	$A_1B_1C_1D_3 \vee A_1B_2C_1D_2$	1.90	0.05
51	$A_1B_1C_1D_3 \vee A_1B_2C_1D_3$	3.27	0.01
52	$A_1B_1C_1D_3 \vee A_1B_2C_2D_1$	3.03	0.01
53	$A_1B_1C_1D_3 \vee A_1B_2C_2D_2$	2.07	0.05
54	$A_1B_1C_1D_3 \vee A_1B_2C_2D_3$	2.54	0.01
55	$A_1B_1C_1D_3 \vee A_2B_1C_1D_1$	1.30	N.S.
56	$A_1B_1C_1D_3 \vee A_2B_1C_1D_2$	3.27	0.01
57	$A_1B_1C_1D_3 \vee A_2B_1C_1D_3$	0.60	N.S.
58	$A_1B_1C_1D_3 \vee A_2B_1C_2D_1$	3.07	0.01
59	$A_1B_1C_1D_3 \vee A_2B_1C_2D_2$	2.67	0.01
60	$A_1B_1C_1D_3 \vee A_2B_1C_2D_3$	3.10	0.01
61	$A_1B_1C_1D_3 \vee A_2B_2C_1D_1$	0.23	N.S.
62	$A_1B_1C_1D_3 \vee A_2B_2C_1D_2$	2.40	0.05
63	$A_1B_1C_1D_3 \vee A_2B_2C_1D_3$	0.60	N.S.
64	$A_1B_1C_1D_3 \vee A_2B_2C_2D_1$	0.03	N.S.
65	$A_1B_1C_1D_3 \vee A_2B_2C_2D_2$	1.40	N.S.
66	$A_1B_1C_1D_3 \vee A_2B_2C_2D_3$	4.77	0.01
67	$A_1B_1C_2D_1 \vee A_1B_1C_2D_2$	2.14	0.05
68	$A_1B_1C_2D_1 \vee A_1B_1C_2D_3$	0.77	N.S.
69	$A_1B_1C_2D_1 \vee A_1B_2C_1D_1$	0.77	N.S.
70	$A_1B_1C_2D_1 \vee A_1B_2C_1D_2$	1.13	N.S.
71	$A_1B_1C_2D_1 \vee A_1B_2C_1D_3$	1.50	N.S.
72	$A_1B_1C_2D_1 \vee A_1B_2C_2D_1$	1.26	N.S.
73	$A_1B_1C_2D_1 \vee A_1B_2C_2D_2$	0.30	N.S.
74	$A_1B_1C_2D_1 \vee A_1B_2C_2D_3$	0.77	N.S.
75	$A_1B_1C_2D_1 \vee A_2B_1C_1D_1$	0.47	N.S.
76	$A_1B_1C_2D_1 \vee A_2B_1C_1D_2$	5.04	0.01

77	$A_1B_1 C_2D_1 \vee A_2B_1C_1D_3$	1.17	N.S.
78	$A_1B_1 C_2D_1 \vee A_2B_1C_2D_1$	0.26	N.S.
79	$A_1B_1 C_2D_1 \vee A_2B_1C_2D_2$	4.44	0.01
80	$A_1B_1 C_2D_1 \vee A_2B_1C_2D_3$	4.87	0.01
81	$A_1B_1 C_2D_1 \vee A_2B_2C_1D_1$	2.00	0.05
82	$A_1B_1 C_2D_1 \vee A_2B_2C_1D_2$	0.63	N.S.
83	$A_1B_1 C_2D_1 \vee A_2B_2C_1D_3$	1.17	N.S.
84	$A_1B_1 C_2D_1 \vee A_2B_2C_2D_1$	1.74	0.05
85	$A_1B_1 C_2D_1 \vee A_2B_2C_2D_2$	0.37	N.S.
86	$A_1B_1 C_2D_1 \vee A_2B_2C_2D_3$	3.00	0.01
87	$A_1B_1 C_2D_2 \vee A_1B_1C_2D_3$	1.37	N.S.
88	$A_1B_1 C_2D_2 \vee A_1B_2C_1D_1$	1.37	N.S.
89	$A_1B_1 C_2D_2 \vee A_1B_2C_1D_2$	3.27	0.01
90	$A_1B_1 C_2D_2 \vee A_1B_2C_1D_3$	3.64	0.01
91	$A_1B_1 C_2D_2 \vee A_1B_2C_2D_1$	3.40	0.01
92	$A_1B_1 C_2D_2 \vee A_1B_2C_2D_2$	2.44	0.05
93	$A_1B_1 C_2D_2 \vee A_1B_2C_2D_3$	2.91	0.01
94	$A_1B_1 C_2D_2 \vee A_2B_1C_1D_1$	1.67	N.S.
95	$A_1B_1 C_2D_2 \vee A_2B_1C_1D_2$	2.90	0.01
96	$A_1B_1 C_2D_2 \vee A_2B_1C_1D_3$	0.97	N.S.
97	$A_1B_1 C_2D_2 \vee A_2B_1C_2D_1$	2.40	0.05
98	$A_1B_1 C_2D_2 \vee A_2B_1C_2D_2$	2.30	0.05
99	$A_1B_1 C_2D_2 \vee A_2B_1C_2D_3$	2.73	0.01
100	$A_1B_1 C_2D_2 \vee A_2B_2C_1D_1$	0.14	N.S.
101	$A_1B_1 C_2D_2 \vee A_2B_2C_1D_2$	2.77	0.01
102	$A_1B_1 C_2D_2 \vee A_2B_2C_1D_3$	0.97	N.S.
103	$A_1B_1 C_2D_2 \vee A_2B_2C_2D_1$	0.40	N.S.

104	$A_1B_1 C_2D_2 \vee A_2B_2C_2D_2$	1.77	0.05
105	$A_1B_1 C_2D_2 \vee A_2B_2C_2D_3$	5.14	0.01
106	$A_1B_1 C_2D_3 \vee A_1B_2C_1D_1$	0.00	N.S.
107	$A_1B_1 C_2D_3 \vee A_1B_2C_1D_2$	1.90	0.05
108	$A_1B_1 C_2D_3 \vee A_1B_2C_1D_3$	2.27	0.05
109	$A_1B_1 C_2D_3 \vee A_1B_2C_2D_1$	2.03	0.05
110	$A_1B_1 C_2D_3 \vee A_1B_2C_2D_2$	1.07	N.S.
111	$A_1B_1 C_2D_3 \vee A_1B_2C_2D_3$	1.54	N.S.
112	$A_1B_1 C_2D_3 \vee A_2B_1C_1D_1$	0.30	N.S.
113	$A_1B_1 C_2D_3 \vee A_2B_1C_1D_2$	4.27	0.01
114	$A_1B_1 C_2D_3 \vee A_2B_1C_1D_3$	0.40	N.S.
115	$A_1B_1 C_2D_3 \vee A_2B_1C_2D_1$	1.03	N.S.
116	$A_1B_1 C_2D_3 \vee A_2B_1C_2D_2$	3.67	0.01
117	$A_1B_1 C_2D_3 \vee A_2B_1C_2D_3$	4.10	0.01
118	$A_1B_1 C_2D_3 \vee A_2B_2C_1D_1$	1.23	N.S.
119	$A_1B_1 C_2D_3 \vee A_2B_2C_1D_2$	1.40	N.S.
120	$A_1B_1 C_2D_3 \vee A_2B_2C_1D_3$	0.40	N.S.
121	$A_1B_1 C_2D_3 \vee A_2B_2C_2D_1$	0.97	N.S.
122	$A_1B_1 C_2D_3 \vee A_2B_2C_2D_2$	0.40	N.S.
123	$A_1B_1 C_2D_3 \vee A_2B_2C_2D_3$	3.77	0.01
124	$A_1B_2 C_1D_1 \vee A_1B_2C_1D_2$	1.90	0.05
125	$A_1B_2 C_1D_1 \vee A_1B_2C_1D_3$	2.27	0.05
126	$A_1B_2 C_1D_1 \vee A_1B_2C_2D_1$	2.03	0.05
127	$A_1B_2 C_1D_1 \vee A_1B_2C_2D_2$	1.07	N.S.
128	$A_1B_2 C_1D_1 \vee A_1B_2C_2D_3$	1.54	N.S.
129	$A_1B_2 C_1D_1 \vee A_2B_1C_1D_1$	0.30	N.S.
130	$A_1B_2 C_1D_1 \vee A_2B_1C_1D_2$	4.27	0.01

131	$A_1B_2 C_1D_1 \vee A_2B_1C_1D_3$	0.40	N.S.
132	$A_1B_2 C_1D_1 \vee A_2B_1C_2D_1$	1.03	N.S.
133	$A_1B_2 C_1D_1 \vee A_2B_1C_2D_2$	3.67	0.01
134	$A_1B_2 C_1D_1 \vee A_2B_1C_2D_3$	4.10	0.01
135	$A_1B_2 C_1D_1 \vee A_2B_2C_1D_1$	1.23	N.S.
136	$A_1B_2 C_1D_1 \vee A_2B_2C_1D_2$	1.40	N.S.
137	$A_1B_2 C_1D_1 \vee A_2B_2C_1D_3$	0.40	N.S.
138	$A_1B_2 C_1D_1 \vee A_2B_2C_2D_1$	0.97	N.S.
139	$A_1B_2 C_1D_1 \vee A_2B_2C_2D_2$	0.40	N.S.
140	$A_1B_2 C_1D_1 \vee A_2B_2C_2D_3$	3.77	0.01
141	$A_1B_2 C_1D_2 \vee A_1B_2C_1D_3$	0.37	N.S.
142	$A_1B_2 C_1D_2 \vee A_1B_2C_2D_1$	0.13	N.S.
143	$A_1B_2 C_1D_2 \vee A_1B_2C_2D_2$	0.83	N.S.
144	$A_1B_2 C_1D_2 \vee A_1B_2C_2D_3$	0.36	N.S.
145	$A_1B_2 C_1D_2 \vee A_2B_1C_1D_1$	1.60	N.S.
146	$A_1B_2 C_1D_2 \vee A_2B_1C_1D_2$	6.17	0.01
147	$A_1B_2 C_1D_2 \vee A_2B_1C_1D_3$	2.30	0.05
148	$A_1B_2 C_1D_2 \vee A_2B_1C_2D_1$	0.13	N.S.
149	$A_1B_2 C_1D_2 \vee A_2B_1C_2D_2$	5.57	0.01
150	$A_1B_2 C_1D_2 \vee A_2B_1C_2D_3$	6.00	0.01
151	$A_1B_2 C_1D_2 \vee A_2B_2C_1D_1$	3.13	0.01
152	$A_1B_2 C_1D_2 \vee A_2B_2C_1D_2$	0.50	N.S.
153	$A_1B_2 C_1D_2 \vee A_2B_2C_1D_3$	2.30	0.05
154	$A_1B_2 C_1D_2 \vee A_2B_2C_2D_1$	2.83	0.01
155	$A_1B_2 C_1D_2 \vee A_2B_2C_2D_2$	1.50	N.S.
156	$A_1B_2 C_1D_2 \vee A_2B_2C_2D_3$	1.87	0.05
157	$A_1B_2 C_1D_3 \vee A_1B_2C_2D_1$	0.24	N.S.

158	$A_1B_2 C_1D_3 \vee A_1B_2C_2D_2$	1.20	N.S.
159	$A_1B_2 C_1D_3 \vee A_1B_2C_2D_3$	0.73	N.S.
160	$A_1B_2 C_1D_3 \vee A_2B_1C_1D_1$	1.97	0.05
161	$A_1B_2 C_1D_3 \vee A_2B_1C_1D_2$	6.54	0.01
162	$A_1B_2 C_1D_3 \vee A_2B_1C_1D_3$	2.67	0.01
163	$A_1B_2 C_1D_3 \vee A_2B_1C_2D_1$	1.24	N.S.
164	$A_1B_2 C_1D_3 \vee A_2B_1C_2D_2$	5.94	0.01
165	$A_1B_2 C_1D_3 \vee A_2B_1C_2D_3$	6.37	0.01
166	$A_1B_2 C_1D_3 \vee A_2B_2C_1D_1$	3.50	0.01
167	$A_1B_2 C_1D_3 \vee A_2B_2C_1D_2$	0.87	N.S.
168	$A_1B_2 C_1D_3 \vee A_2B_2C_1D_3$	2.67	0.01
169	$A_1B_2 C_1D_3 \vee A_2B_2C_2D_1$	3.24	0.01
170	$A_1B_2 C_1D_3 \vee A_2B_2C_2D_2$	1.87	0.05
171	$A_1B_2 C_1D_3 \vee A_2B_2C_2D_3$	1.50	N.S.
172	$A_1B_2 C_2D_1 \vee A_1B_2C_2D_2$	0.96	N.S.
173	$A_1B_2 C_2D_1 \vee A_1B_2C_2D_3$	0.49	N.S.
174	$A_1B_2 C_2D_1 \vee A_2B_1C_1D_1$	1.73	0.05
175	$A_1B_2 C_2D_1 \vee A_2B_1C_1D_2$	6.30	0.01
176	$A_1B_2 C_2D_1 \vee A_2B_1C_1D_3$	2.43	0.05
177	$A_1B_2 C_2D_1 \vee A_2B_1C_2D_1$	1.00	N.S.
178	$A_1B_2 C_2D_1 \vee A_2B_1C_2D_2$	5.70	0.01
179	$A_1B_2 C_2D_1 \vee A_2B_1C_2D_3$	6.13	0.01
180	$A_1B_2 C_2D_1 \vee A_2B_2C_1D_1$	3.26	0.01
181	$A_1B_2 C_2D_1 \vee A_2B_2C_1D_2$	0.63	N.S.
182	$A_1B_2 C_2D_1 \vee A_2B_2C_1D_3$	2.43	0.05
183	$A_1B_2 C_2D_1 \vee A_2B_2C_2D_1$	3.00	0.01
184	$A_1B_2 C_2D_1 \vee A_2B_2C_2D_2$	1.63	N.S.

185	$A_1B_2 C_2D_1 \vee A_2B_2C_2D_3$	1.74	0.05
186	$A_1B_2 C_2D_2 \vee A_1B_2C_2D_3$	0.47	N.S.
187	$A_1B_2 C_2D_2 \vee A_2B_1C_1D_1$	0.77	N.S.
188	$A_1B_2 C_2D_2 \vee A_2B_1C_1D_2$	5.34	0.01
189	$A_1B_2 C_2D_2 \vee A_2B_1C_1D_3$	1.47	N.S.
190	$A_1B_2 C_2D_2 \vee A_2B_1C_2D_1$	0.04	N.S.
191	$A_1B_2 C_2D_2 \vee A_2B_1C_2D_2$	4.74	0.01
192	$A_1B_2 C_2D_2 \vee A_2B_1C_2D_3$	5.17	0.01
193	$A_1B_2 C_2D_2 \vee A_2B_2C_1D_1$	2.30	0.05
194	$A_1B_2 C_2D_2 \vee A_2B_2C_1D_2$	0.33	N.S.
195	$A_1B_2 C_2D_2 \vee A_2B_2C_1D_3$	1.47	N.S.
196	$A_1B_2 C_2D_2 \vee A_2B_2C_2D_1$	2.04	0.05
197	$A_1B_2 C_2D_2 \vee A_2B_2C_2D_2$	0.67	N.S.
198	$A_1B_2 C_2D_2 \vee A_2B_2C_2D_3$	2.70	0.01
199	$A_1B_2 C_2D_3 \vee A_2B_1C_1D_1$	1.24	N.S.
200	$A_1B_2 C_2D_3 \vee A_2B_1C_1D_2$	5.81	0.01
201	$A_1B_2 C_2D_3 \vee A_2B_1C_1D_3$	1.94	0.05
202	$A_1B_2 C_2D_3 \vee A_2B_1C_2D_1$	0.51	N.S.
203	$A_1B_2 C_2D_3 \vee A_2B_1C_2D_2$	5.21	0.01
204	$A_1B_2 C_2D_3 \vee A_2B_1C_2D_3$	5.64	0.01
205	$A_1B_2 C_2D_3 \vee A_2B_2C_1D_1$	2.77	0.01
206	$A_1B_2 C_2D_3 \vee A_2B_2C_1D_2$	0.14	N.S.
207	$A_1B_2 C_2D_3 \vee A_2B_2C_1D_3$	1.94	0.05
208	$A_1B_2 C_2D_3 \vee A_2B_2C_2D_1$	2.51	0.01
209	$A_1B_2 C_2D_3 \vee A_2B_2C_2D_2$	1.14	N.S.
210	$A_1B_2 C_2D_3 \vee A_2B_2C_2D_3$	2.23	0.05
211	$A_2B_1 C_1D_1 \vee A_2B_1C_1D_2$	4.57	0.01

212	$A_2B_1 C_1D_1 \vee A_2B_1C_1D_3$	0.60	N.S.
213	$A_2B_1 C_1D_1 \vee A_2B_1C_2D_1$	0.73	N.S.
214	$A_2B_1 C_1D_1 \vee A_2B_1C_2D_2$	3.97	0.01
215	$A_2B_1 C_1D_1 \vee A_2B_1C_2D_3$	4.40	0.01
216	$A_2B_1 C_1D_1 \vee A_2B_2C_1D_1$	1.53	N.S.
217	$A_2B_1 C_1D_1 \vee A_2B_2C_1D_2$	1.10	N.S.
218	$A_2B_1 C_1D_1 \vee A_2B_2C_1D_3$	0.70	N.S.
219	$A_2B_1 C_1D_1 \vee A_2B_2C_2D_1$	1.27	N.S.
220	$A_2B_1 C_1D_1 \vee A_2B_2C_2D_2$	0.10	N.S.
221	$A_2B_1 C_1D_1 \vee A_2B_2C_2D_3$	3.47	0.01
222	$A_2B_1 C_1D_2 \vee A_2B_1C_1D_3$	3.87	0.01
223	$A_2B_1 C_1D_2 \vee A_2B_1C_2D_1$	5.30	0.01
224	$A_2B_1 C_1D_2 \vee A_2B_1C_2D_2$	0.60	N.S.
225	$A_2B_1 C_1D_2 \vee A_2B_1C_2D_3$	0.17	N.S.
226	$A_2B_1 C_1D_2 \vee A_2B_2C_1D_1$	3.04	0.01
227	$A_2B_1 C_1D_2 \vee A_2B_2C_1D_2$	5.67	0.01
228	$A_2B_1 C_1D_2 \vee A_2B_2C_1D_3$	3.87	0.01
229	$A_2B_1 C_1D_2 \vee A_2B_2C_2D_1$	3.30	0.01
230	$A_2B_1 C_1D_2 \vee A_2B_2C_2D_2$	4.67	0.01
231	$A_2B_1 C_1D_2 \vee A_2B_2C_2D_3$	8.04	0.01
232	$A_2B_1 C_1D_2 \vee A_2B_1C_2D_1$	1.43	N.S.
233	$A_2B_1 C_1D_3 \vee A_2B_1C_2D_2$	3.27	0.01
234	$A_2B_1 C_1D_3 \vee A_2B_1C_2D_3$	3.70	0.01
235	$A_2B_1 C_1D_3 \vee A_2B_2C_1D_1$	0.83	N.S.
236	$A_2B_1 C_1D_3 \vee A_2B_2C_1D_2$	1.80	0.05
237	$A_2B_1 C_1D_3 \vee A_2B_2C_1D_3$	0.00	N.S.
238	$A_2B_1 C_1D_3 \vee A_2B_2C_2D_1$	0.57	N.S.

239	$A_2B_1 C_1D_3 \vee A_2B_2C_2D_2$	0.80	N.S.
240	$A_2B_1 C_1D_3 \vee A_2B_2C_2D_3$	4.17	0.01
241	$A_2B_1 C_2D_1 \vee A_2B_1C_2D_2$	4.70	0.01
242	$A_2B_1 C_2D_1 \vee A_2B_1C_2D_3$	5.13	0.01
243	$A_2B_1 C_2D_1 \vee A_2B_2C_1D_1$	2.26	0.05
244	$A_2B_1 C_2D_1 \vee A_2B_2C_1D_2$	0.37	N.S.
245	$A_2B_1 C_2D_1 \vee A_2B_2C_1D_3$	1.43	N.S.
246	$A_2B_1 C_2D_1 \vee A_2B_2C_2D_1$	2.00	0.05
247	$A_2B_1 C_2D_1 \vee A_2B_2C_2D_2$	0.63	N.S.
248	$A_2B_1 C_2D_1 \vee A_2B_2C_2D_3$	2.74	0.01
249	$A_2B_1 C_2D_2 \vee A_2B_1C_2D_3$	0.43	N.S.
250	$A_2B_1 C_2D_2 \vee A_2B_2C_1D_1$	2.44	0.05
251	$A_2B_1 C_2D_2 \vee A_2B_2C_1D_2$	5.07	0.01
252	$A_2B_1 C_2D_2 \vee A_2B_2C_1D_3$	3.27	0.01
253	$A_2B_1 C_2D_2 \vee A_2B_2C_2D_1$	2.70	0.01
254	$A_2B_1 C_2D_2 \vee A_2B_2C_2D_2$	4.07	0.01
255	$A_2B_1 C_2D_2 \vee A_2B_2C_2D_3$	7.44	0.01
256	$A_2B_1 C_2D_3 \vee A_2B_2C_1D_1$	2.87	0.01
257	$A_2B_1 C_2D_3 \vee A_2B_2C_1D_2$	5.50	0.01
258	$A_2B_1 C_2D_3 \vee A_2B_2C_1D_3$	3.70	0.01
259	$A_2B_1 C_2D_3 \vee A_2B_2C_2D_1$	3.13	0.01
260	$A_2B_1 C_2D_3 \vee A_2B_2C_2D_2$	4.50	0.01
261	$A_2B_1 C_2D_3 \vee A_2B_2C_2D_3$	4.87	0.01
262	$A_2B_2 C_1D_1 \vee A_2B_2C_1D_2$	2.63	0.01
263	$A_2B_2 C_1D_1 \vee A_2B_2C_1D_3$	0.83	N.S.
264	$A_2B_2 C_1D_1 \vee A_2B_2C_2D_1$	0.26	N.S.
265	$A_2B_2 C_1D_1 \vee A_2B_2C_2D_2$	1.63	N.S.

266	$A_2B_2 C_1D_1 \vee A_2B_2C_2D_3$	5.00	0.01
267	$A_2B_2 C_1D_2 \vee A_2B_2C_1D_3$	1.80	0.05
268	$A_2B_2 C_1D_2 \vee A_2B_2C_2D_1$	2.37	N.S.
269	$A_2B_2 C_1D_2 \vee A_2B_2C_2D_2$	1.00	N.S.
270	$A_2B_2 C_1D_2 \vee A_2B_2C_2D_3$	2.37	0.05
271	$A_2B_2 C_1D_3 \vee A_2B_2C_2D_1$	0.57	N.S.
272	$A_2B_2 C_1D_3 \vee A_2B_2C_2D_2$	0.80	N.S.
273	$A_2B_2 C_1D_3 \vee A_2B_2C_2D_3$	4.17	0.01
274	$A_2B_2 C_2D_1 \vee A_2B_2C_2D_2$	1.37	N.S.
275	$A_2B_2 C_2D_1 \vee A_2B_2C_2D_3$	4.74	0.01
276	$A_2B_2 C_2D_2 \vee A_2B_2C_2D_3$	3.37	0.01

Sig. Levels of L.S.D. 0.05=1.73

0.01=2.34

We have seen the table no.4.70 A L.S.D. Table for Interaction of Type of people, Sex, Area and social economic status variables on Ego strength that we have seen the result and said that most of pairs are significance at **0.01** levels. We also said that the **highest mean difference** between $A_1B_1C_1D_1 \vee A_2B_2C_2D_3$ (**High social economic status rural psychosomatic male V Low social economic status urban normal Female**) is **9.20**, so we said that it is very big difference. The **Lowest means difference** between $A_1B_1C_2D_3 \vee A_1B_2C_1D_1$ & $A_2B_1 C_1D_3 \vee A_2B_2C_1D_3$ is **0.00** on Ego strength. Hence see the all result and conclude that either all variables (Factor: Like as Type of people, Sex, Area and Social economic status) are affected on Ego strength or Ego strength was affected them. Various earlier studies have also reported there was significance difference between psychosomatic male and female for different social economic status on Type D personality and Depression. (S.Herachi, 2009, S.R.THOMAS, 2009, Zala, K.J.2010).

Ho₅₀ There is no significance difference of Ego strength based on Type of Family variables.

Table 4.71

The Respondents Demographic variables and their t- test for Ego strength

Variables(Family)	N	Mean	S.D.	t	Sig.
Joint family	428	12.38	3.96	0.10	N.S.
Divided family	292	12.35	4.12		

Significance levels 0.05=1.97

0.01=2.59

We have seen the table no.4.71 't' calculation for Ego strength between joint and divided family people that the t value is 0.10, which was **not significance** at **0.05** levels. Hence, the **Ho₅₀** was accepted and it could be said that there was no significant mean difference between Type of family variables & their Ego strength score. But we compare mean score and we said that a joint family people are little more Ego strength than divided family people.

Ho₅₁ There is no significance difference of Ego strength based on Type of Income variables.

Table 4.72

The Respondents Demographic variables and their t- test for Ego strength

Variables (Type of Income)	N	Mean	S.D.	t	Sig.
50000 To 300000	220	13.91	5.04	3.10	0.01
300001 To550000	90	12.23	4.00		

Significance levels 0.05=1.97

0.01=2.59

We have seen the table no.4.72 't' calculation for Ego strength between different income people that the t value was **3.10**, which was significance at **0.01** levels. Hence, the **H₀₅₁** was rejected and it could be said that there was significant mean difference between Type of Income variables & their Ego strength score. But we compare mean score we said that the people which income between 300001 to 550000 are little more Ego strength than the people whose income below 300000.

H₀₅₂ There will be no Correlation between the respondents Type D personality and Depression.

Table 4.73

The correlation between Type d personality and Depression

Variables	N	Mean	r
Type D personality	720	28.04	0.38**
Depression	720	37.53	

Critical Value for significance of Pearson product moment coefficient of correlation

'r' value df=718, 0.05= 0.07

0.01= 0.10

We have seen the table no.4.73 the correlation between Type-D personality and depression that **'r' value = 0.38**, so we can say that there was significant correlation between the respondents type d personality & Depression. Here, the positive **r** value=**0.38**, which was significant at 0.01levels.Hence, **H₀₅₂** was rejected. It concluded that there was positive significance correlation between respondents Type D personality and their Depression. It means that as Type d personality increases the depression is also Increases.

Ho₅₃ There will be no Correlation between the respondents Type D personality and Ego strength.

Table 4.74

The correlation between Type d personality and Ego strength

Variables	N	Mean	r
Type D personality	720	28.04	-0.78**
Ego strength	720	12.36	

Critical Value for significance of Pearson product moment coefficient of correlation

'r' value df=718, 0.05= 0.07

0.01= 0.10

We have seen the table no.4.74 the correlation between Type-D personality and Ego strength that '**r' value = -0.78**, so we can say that there was significant correlation between the respondents type d personality & Ego strength. Here, the Negative **r** value= -**0.78**, which was significant at 0.01levels.Hence, **Ho₅₃** was rejected. It concluded that there was negative significance correlation between respondents Type D personality and their Ego strength. It means that as Type d personality increases the Ego strength is Decreases.

Ho₅₄ There will be no Correlation between the respondents Depression and Ego strength.

Table 4.75

The correlation between Depression and Ego strength

Variables	N	Mean	r
Depression	720	37.53	-0.75**
Ego strength	720	12.36	

Critical Value for significance of Pearson product moment coefficient of correlation

'r' value df=718, 0.05= 0.07

0.01= 0.10

We have seen the table no.4.75 the correlation between Depression and Ego strength that **'r' value = -0.75**, so we can say that there was significant correlation between the respondents Depression & Ego strength. Here, the Negative r value= **-0.75**, which was significant at 0.01levels.Hence, **Ho₅₄** was rejected. It concluded that there was negative significance correlation between respondents Depression and their Ego strength. It means that as Depression increases the Ego strength is Decreases.

4.6 To indicate ways for Depression controls of the respondents:

In view of this results and indicate ways for Depression controls of the respondents are as follows;

- I am not trying to suggest that if you have depression that you can just “snap out of it.” But you can keep it under control if it is not severe enough to require medical treatment. But it takes a great amount of effort to do this.
- The important thing is to focus on those things which make you feel alive, passionate and give you a sense that there is a great chance for things to improve. You cannot feel great and be depressed at the same time. Great feelings are an enemy to depression. Depression cannot survive in a person that

has the will and the desire to lead a life of passion, enthusiasm and purpose. You do have a desire to improve your life and get yourself out of your depressed state because that's why you are reading this.

- One of the ways to overcome depression is to take responsibility of your own life. You must take some type of action to become happy. If you are depressed, and you take no action so you will never be happy. You must want to be happy as you want to breathe.
- Unless you have a severe case of depression in which case professional help and medical treatment is absolutely necessary, there are ways that you can control yourself from being depressed.
- First of all, remember that if you are sad or having the blues or if you are feeling like there is no hope that things will get better that is a natural part of life. You are a human being and you have feelings. When you are feeling a certain way, it is almost as if your mind is communicating to you and saying that something is wrong and that the wrong thing needs to be fixed. Pay attention to what your thoughts and feelings are because your thoughts and feelings are an extremely powerful indicator of where your life is going.
- If you are feeling sad or depressed, you are going to create a reality or future that is not on track with your desires.
- Another important thing that you can do to keep your depression under control is to set goals for yourself and I'm not just talking about financial goals. I am talking about having goals in other areas of your life too. Happy people have hobbies and things that they enjoy doing and the happiest of people also have a purpose in their life. If you are depressed, you may feel like there is no purpose to life and when that happens, you can get into lots of trouble mentally and you won't survive in life. The fact is that there are times that life will hit us in the face and it will treat us very roughly. That will happen to all of us at some point.
- If you are able to keep those depressed feelings out of your body, you can do anything that you put your mind to. Good luck and please enjoy your life and be a good person.

4.7 To suggest steps for improvement of Ego strength & Personality of the respondents:

In view of this results and some suggest steps for improvement of Ego strength & Personality of the respondents are as follows;

- In **Sigmund Freud's** psychoanalytic theory of personality, ego strength is the ability of the ego to effectively deal with the demands of the **Id**, the **superego** and reality. Those with little ego strength may feel torn between these competing demands, while those with too much ego strength can become too unyielding and rigid. Ego strength helps us maintain emotional stability and cope with internal and external stress.
- **According to Sigmund Freud, personality is composed of three elements: the id, the ego and the super-ego.** The id is composed of all the primal urges and desires and is the only part of personality present at birth. The super-ego is the part of personality that is composed of the internalized standards and rules that we acquire from our parents and from society. The ego is the part of personality that mediates between the demands of reality, the urges of the id and the idealistic standards of the super-ego.
- In situations involving psychological disorders, ego strength is often used to describe a patient's ability to maintain their identity and sense of self in the face of pain, distress and conflict. Researchers have also suggested that acquiring new defenses and coping mechanisms is an important component of ego strength.
- **High Ego Strength**

An individual with strong ego-strength approaches challenges with a sense that he or she can overcome the problem and even grow as a result. By having strong ego-strength, the individual feels that he or she can cope with the problem and find new ways of dealing with struggles. These people can handle whatever life throws at them without losing their sense of self.

- **Low Ego Strength**

On the other hand, those with weak ego-strength view challenges as something to avoid. In many cases, reality can seem too overwhelming to deal with. These individuals struggle to cope in the face of problems, and may try to avoid reality through wishful thinking, substance use and fantasies.

In psychotherapy the ability to maintain the ego by a cluster of traits that together contribute to good mental health. The traits usually considered important include tolerance of the pain of loss, disappointment, shame, or guilt; forgiveness of those who have caused an injury, with feelings of compassion rather than anger and retaliation; acceptance of substitutes and ability to defer gratification; persistence and perseverance in the pursuit of goals; openness, flexibility, and creativity in learning to adapt; and vitality and power in the activities of life. The psychiatric prognosis for a client correlates positively with ego strength.

So we can say that you think about always positively and use some self control technique that you improvement your Ego strength capacity and to improve your personality also.

Chapter-5

Research Report

Chapter-5
Research Report

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5.1 Introduction:

This section brings out the entire summary of the research, the conclusions made out of the investigation and recommendations for further Researchs. We all are know that the chapter for research report was very important to our research. Someone author say that the research report chapter is mirror of research. So we see in the chapter, Introduction, Research summary, Rsearch Conclusion, Limitation of the study and Some suggestion of further study.

5.2 Research Summery:

The aim of present study is a study of Type D personality, Depression and Ego strength between psychosomatic patients and Normal people. So first of all make a null hypothesis then the collect the Data as a **2x2x2x3 factorial designed**.

The respondents of present study shall be 720 Subjects, randomly selected from different hospitals and areas of Saurashtra, Zalawad and Kutchh of Gujarat state. The total sample consisting of **720** Subjects out which **360** are psycho somatic patients, **360** are Normal people. In subjects of **360** out of which **180** are male and **180** are female. In subjects of **180** out of which **90** are rural people and **90** are urban people and then in subjects of **90** out of which **30** are High social economic status people, **30** are Medium social economic status people and **30** are Low social economic status people.

In this research three test were administrated individually as well as on psychosomatic people and Normal people, In this research questionnaire including personal data sheet, Type d personality scale was developed by **Denollet, J**, Depression scale was developed by **Lonard,R.& Deragreties** and Ego strength scale was developed by **Q.Hassen**.

While collecting data for the study before attempting the questionnaire the subjects were requested to read the instruction carefully and follow them in true spirits. So the data collection was completed then '**F**' test **ANOVAs** was applied to check significance difference of main and internal effect of psychosomatic people and Normal people also use the **L.S.D.** (least significance difference) was used to check significance difference of main and internal interaction of psychosomatic people and Normal people, **t** test was applied to check significance mean difference between type of income variable

and type of family variable and then 'r' was used to check the correlation of Type D personality, Depression and Ego strength. we have got a different result are as follow;

There was significant difference of type D personality based on type of people variables. we see the result and say that psychosomatic diseases people were more distress than Normal people. we have given the reason of that type result, because of psychosomatic people was very trouble and very poor adjustment to interact to other people.

There was significant difference of type D personality based on Sex variables. we see the result and say that the male people were more distress than Female people. we have given the reason of that type result, because of most of male people were working people.

There was significant difference of type D personality based on Area variables. we see the result and say that the Urban people were more distress than Rural people. we have given the reason of that type result, because of the life style and globalization are effected factors on urban people.

There was no significant difference of type D personality based on Socio economic status variables. we see the result and say that the medium Socio economic status people were more distress than high and low Socio economic status people. . we have given the reason of that type result, because of the medium Socio economic status people were more try to increase their status.

There was significant difference of Depression based on type of people variables. we see the result and say that psychosomatic diseases people were more depressed than Normal people. we have given the reason of that type result, because of psychosomatic people was very trouble and suffered their diseases.

There was significant difference of Depression based on Sex variables. we see the result and say that the male people were more depressed than Female people. we have given the reason of that type result, because of most of male people were less emotionally and talkative than female people.

There was significant difference of Depression based on Area variables. we see the result and say that the Urban people were more depressed than Rural people. we have given the reason of that type result, because of the life style and globalization are also effected factors on urban people.

There was no significant difference of Depression based on Socio economic status variables. we see the result and say that the Low Socio economic status people were more depressed than high and medium Socio economic status people. we have given the reason of that type result, because of the low Socio economic status people were more try to increase their status and also trouble& suffered their Socio economic position.

There was no significant difference of Ego strength based on type of people variables. we see the result and say that normal people were good strength ness than psychosomatic diseases people. we have given the reason of that type result, because of psychosomatic people was very trouble and suffered their diseases.

There was significant difference of Ego strength based on Sex variables. we see the result and say that the male people were more good strength ness ego than Female people. we have given the reason of that type result, because of almost we have seen the female people were very sensitive and easily hurt than male people.

There was significant difference of Ego strength based on Area variables. we see the result and say that the Rural people were more good strength ness ego than Urban people. we have given the reason of that type result, because of a simple life style and very helpful nature are key factors of good strength ness ego of Rural peoples.

There was significant difference of Ego strength based on Socio economic status variables. we see the result and say that the medium Socio economic status people were good strength ness ego than high and low Socio economic status people. we have given the reason of that type result, because of we have seen, may be the medium Socio economic status people were flexible than high and low Socio economic status people. Almost we have seen the high and low Socio economic status people were very sensitive for their ego.

we have seen the result for interaction to each other independent variables on Type d personality, Depression and ego strength, so we can say that most of interaction are significant difference on Type d personality, Depression and ego strength. Now we have see the all conclusions were drawn on the basis of the study.

5.3 Research conclusions:

The following conclusions were drawn on the basis of the study:

1. There is significance difference of Type D personality based on Type of people variables.
2. There is significance difference of Type D personality based on Sex variables.
3. There is significance difference of Type D personality based on Area variables.
4. There is no significance difference of Type D personality based on Social economics status variables.
5. There is significance difference of Type D personality based on Interaction for type of people and Sex variables.
6. There is significance difference of Type D personality based on Interaction for type of people and Area variables.
7. There is significance difference of Type D personality based on Interaction for type of people and social economic status variables.\
8. There is significance difference of Type D personality based on Interaction for Sex and Area variables.
9. There is significance difference of Type D personality based on Interaction for Sex and social economic status variables.
10. There is significance difference of Type D personality based on Interaction for Area and social economic status variables.
11. There is significance difference of Type D personality based on Interaction for Type of people, Sex and Area variables.
12. There is no significance difference of Type D personality based on Interaction for Type of people, Sex and Social economic status variables.

13. There is significance difference of Type D personality based on Interaction for Sex, Area and Social economic status variables.
14. There is significance difference of Type D personality based on Interaction for Type of people, Area and Social economic status variables.
15. There is significance difference of Type D personality based on Interaction for Type of people, Sex, Area and Social economic status variables.
16. There is significance difference of Depression based on Type of people variables
17. There is significance difference of Depression based on Sex variables.
18. There is significance difference of Depression based on Area variables.
19. There is no significance difference of Depression based on Social economics status variables
20. There is no significance difference of Depression based on Interaction for type of people and Sex variables.
21. There is significance difference of Depression based on Interaction for type of people and Area variables.
22. There is significance difference of Depression based on Interaction for type of people and social economic status variables.
23. There is no significance difference of Depression based on Interaction for Sex and Area variables.
24. There is significance difference of Depression based on Interaction for Sex and social economic status variables.
25. There is significance difference of Depression based on Interaction for Area and social economic status variables.
26. There is significance difference of Depression based on Interaction for Type of people, Sex and Area variables.
27. There is significance difference of Depression based on Interaction for Type of people, Sex and Social economic status variables.

28. There is no significance difference of Depression based on Interaction for Sex, Area and Social economic status variables.
29. There is no significance difference of Depression based on Interaction for Type of people, Area and Social economic status variables.
30. There is significance difference of Depression based on Interaction for Type of people, Sex, Area and Social economic status variables.
31. There is no significance difference of Ego strength based on Type of people variables
32. There is significance difference of Ego strength based on Sex variables
33. There is significance difference of Ego strength based on Area variables.
34. There is no significance difference of Ego strength based on Social economics status variables.
35. There is significance difference of Ego strength based on Interaction for type of people and Sex variables.
36. There is significance difference of Ego strength based on Interaction for type of people and Area variables.
37. There is no significance difference of Ego strength based on Interaction for type of people and social economic status variables.
38. There is no significance difference of Ego strength based on Interaction for Sex and Area variables.
39. There is no significance difference of Ego strength based on Interaction for Sex and social economic status variables.
40. There is significance difference of Ego strength based on Interaction for Area and social economic status variables.
41. There is significance difference of Ego strength based on Interaction for Type of people, Sex and Area variables.
42. There is significance difference of Ego strength based on Interaction for Type of people, Sex and Social economic status variables.

43. There is significance difference of Ego strength based on Interaction for Sex, Area and Social economic status variables.
44. There is significance difference of Ego strength based on Interaction for Type of people, Area and Social economic status variables.
45. There is significance difference of Ego strength based on Interaction for Type of people, Sex, Area and Social economic status variables.
46. There is no significance difference of Type D personality based on Type of Family variables.
47. There is no significance difference of Type D personality based on Type of Income variables.
48. There is no significance difference of Depression based on Type of Family variables.
49. There is significance difference of Depression based on Type of Income variables.
50. There is no significance difference of Ego strength based on Type of Family variables.
51. There is significance difference of Ego strength based on Type of Income variables.
52. There is Positive Correlation between Type D personality and Depression.
53. There is Highly Negative Correlation between Type D personality and Ego strength.
54. There is Highly Negative Correlation between Depression and Ego strength.

5.4 Limitations of the study:

We all are know that our research are depend on Human behaviors, So many Human behaviours (traits) are affect to in our research (e.g. nature, Prejudice, like-dislike, attitude etc.). So we can say that some limitations of social science research are as under;

- 1) Here total sample consisting of only **720** Subjects. So we getting this result are using only area for saurashtra (Rajkot), kutchh and surendranagar districts in Gujarat so that finding of the study can not to be generalized on large population.
- 2) The present research to method of collecting Data using only the Inventory method, no any scientific method are using for data collecting like as interview method, survey method, analytical method etc.
- 3) In the study, only selected dependent variables was choose like as Type D personality, Depression and Ego strength, But we included some others dependent variables (e.g. Mental health, Frustration, Adjustment, etc.)
- 4) In the study the sample have been selected in between 20-60 years. None those who are Lower and Upper Age.
- 5) The present study is only for Psychosomatic People and Normal people.
- 6) In this present study choose psychosomatic patients only suggestion for psychiatrist and mater of Diagnosis(M.D.), No anyone technique use for choosing psychosomatic patients (e.g. Scanning the Inventory for psychosomatic dieses and other scientific technique)
- 7) In this present study select Sociao Economic Status levels only for personal datasheet to every Inventory, No anyone technique use for identify to Social Economic Status levels.
- 8) The present study is a psychological study; we very well know that Psychology is a science of Behaviours. So our psychological researches are depending on Human behaviors and Human behaviours (traits) are affected to in our research (e.g. nature, Prejudice, like-dislike, attitude etc.) so present some limitation for this study but may be moreover limitation in this study.

5.5 Suggestion for this Study:

The following suggestions were presented for further studies are as follows:

- 1) Choosing Areas of present study are only for saurashtra (Rajkot), kutchh and surendranagar districts in Gujarat, so in the future, study criteria for area moreover than this study.

- 2) In this present study only selected variables like as Type D personality, Depression and Ego strength so the future studies are indicated that others variables (e.g. Mental health, Frustration, Adjustment, Life satisfaction etc.)
- 3) In the present study to method of collecting Data using only the Inventory method, no any scientific method are using for data collecting so in the future study we getting the good result we would like as some others techniques like as interview method, survey method, analytical method etc.
- 4) The present study chooses the some type of psychosomatic patients but in the future study the criteria for psychosomatic patients is bigger than this study.
- 5) This is comparative study of psychosomatic and normal people on Type D personality, Depression and Ego strength, but in the future study researcher only for focus on psychosomatic patients.
- 6) In the future study researcher collect inventory data but some other personal information for research samples, researcher contact and meet to samples relative and family members.
- 7) A study could be conducted regarding personality differences among psychosomatic and Normal people.
- 8) A study related to personality difference among the deaf and Normal patients can be done.
- 9) Cross cultural and comparative study with different type of factors like Religion, Cast, and Type of family, size of family and education level could be challenging area for further study.
- 10) Problems of dislike chronic illness and normal patients and their pattern of adjustment need to be study.
- 11) Last but not least, same study may be revised after five year and verify the results of the study.

References

REFERENCES

- Absi.M, et.al.(2003).** Adrenocortical responses to stress in hypertension-prone men and women, *Med* 2003;25:25–33.
- Appeals, et. al. (2008).** A study of Type-D personality of patients with an psychology implantable cardioverter defibrillator. *Journal of Abnormal Psychology*; 68,72-76.
- Appels A, et.al (2000).** Behavioral risk factors of sudden cardiac arrest. *J Psychosom Res* 2000;48:463–90.
- Asendorp, J, B, et.al (1993).** Social inhibition: a general–developmental perspective. In *Emotion, Inhibition, and Health*. Seattle, Hogrefe & Huber Publishers; 1993:80–99.
- Brosschot J, F et.al (1998).** Anger inhibition, cardiovascular recovery, and vagal function: a model of the links between hostility and cardiovascular disease. *Ann Behav Med* 1998;20:326–32.
- Chaput L, A, et.al (2002).** Hostility predicts recurrent events among postmenopausal women with coronary heart disease. *Am J Epidemiol* 2002; 156:1092–9.
- Cohen S, et.al (1997).** Social ties and susceptibility to the common cold. *JAMA* 1997;77:140–44.
- Cole S, W, et.al (1999).** Socially inhibited individuals show heightened DTH response during intense social engagement. *Brain Behav Immun* 1999;13:187–200.
- Comrey A, L(1988).** Factor-analytic methods of scale development in personality and clinical psychology. *J Consul Clinical Psychology* 1988;56:754–61.
- De Fruyt F and Denollet J (2002).** Type D personality: a five-factor model perspective. *Psychol Health* 2002; 671–83.
- Denollet, J. (2005).** DS: 14 Standard Assessments of Negative Affectivity, Social Inhibition and Type-D Personality. *Psychosomatic Medicine*, 76, 89-97.
- Denollet,J. (1998).** Personality and risk of Cancer in men with coronary heart disease, *Psychological Medicine*, 28, 90-95

Denollet J. (1991). Negative affectivity and repressive coping: pervasive influence on self-reported mood, health, and coronary-prone behavior. *Psychosom Med* 1991;53:58–59.

Denollet J.(1995). Personality and mortality after myocardial infarction. *Psychosom Med* 1995;57:82–91.

Denollet J (1996). Personality as independent predictor of long-term mortality in patients with coronary heart disease, *Lancet* 1996;347:417–21.

Denollet J.(1998). Personality and risk of cancer in men with coronary heart disease. *Psychol Med* 1998;28-99.

Denollet J, et.al (1998). Personality, disease severity, and the risk of long-term cardiac events in patients with decreased ejection fraction after myocardial infarction. *Circulation* 1998;97:167–73.

Denollet J, et.al (2000). Inadequate response to treatment in coronary heart disease: adverse effects of Type D personality and younger age on 5-year prognosis and quality of life. *Circulation* 2000;102:630–5.

Denollet J, et.al (2003). Cytokines and immune activation in systolic heart failure: the role of Type D personality. *Brain Behave. Immun* 2003;17:30–39.

Denollet J(1998). Personality and coronary heart disease: the Type D Scale-16 (DS16). *Ann Behav Med* 1998;20:209–15.

Denollet J(2000).Type D personality: a potential risk factor refined. *J Psychosom Res* 2000;49:255–66.

Denollet J (1993). Emotional distress and fatigue in coronary heart disease: the Global Mood Scale (GMS). *Psychol Med* 1993;23:111–21.

Denollet J (1994).Health complaints and outcome assessment in coronary heart disease. *Psychosom Med* 1994;56:463–74.

Denollet J, and Brutsaert D, L(2001). Reducing emotional distress improves prognosis in coronary heart disease: 9-year mortality in a clinical trial of rehabilitation. *Circulation* 2001;104:201–23.

- Dimsdale et.al. et.al.(2010)** A perspective on type A behavior and coronary disease. *N Engl J Med* 1988;31:40
- Emery C,F, et.al(2004).**Gender differences in quality of life among cardiac patients. *Psychosom Med* 2004;66:190–7.
- Ericson M, et.al (1999).** Psychosocial factors and heart rate variability in healthy women. *Psychosom Med* 1999;61:49–57.
- Frasure-Smith N, et.al (2003).** Depression and other psychological risks following myocardial infarction. *Arch Gen Psychiatry* 2003;60:627–36.
- Friedman H,S, et.al(1987).** Personality, type A behavior, and coronary heart disease: the role of emotional expression. *Soc Psychos* 1987;53:78–92.
- Funder D,C.(1991)** Global traits: a neo-Allportian approach to personality. *Psycho Science*, 1991;231–239.
- Gest, S, D, et.al (1997).** Behavioral inhibition: stability and associations with adaptation from childhood to early adulthood. *J Pers Soc Psychol* 1997; 72:74–75.
- Gross J,J(2002).** Emotion regulation: affective, cognitive and social consequences. *Psychophysiology* 2002;39:281–91.
- Gross J, J (1997).** Hiding feelings: the acute effects of inhibiting negative and positive emotion. *Journal oral Abnormal Psychology* 1997;106:195–203.
- Graves P,Let.al (1994).** Temperament as a potential predictor of mortality: evidence from a 41-year prospective study. *J Behave Med* 1994;17:111–26.
- Habra M,E, et.al(2003).** Type D personality is related to cardiovascular and neuroendocrine reactivity to acute stress. *J Psychosom Res* 2003;55:235–45.
- Harburg E, et.al (2003).** A. Expressive/suppressive anger-coping responses, gender, and types of mortality: a 17-year follow-up (Tecumseh, Michigan, 1971–1988). *Psychosom Med* 2003;65:88–97.
- Haynes S,G, et.al(1980).**The relationship of psychosocial factors to coronary heart disease in the Framingham Study. III. Eight-year incidence of coronary heart disease. *Am J Epidemiology* 1980;11:37–58.

Hoekstra, H, A, et.al (1996). NEO-PI-R & NEO-FFI. NEO Personality Inventories: NEO-PI-R & NEO-FFI.] Lisse, the Netherlands: Swets, & Zeitlinger BV; 1996.

Horgan J, et.al (2004). Responsiveness of health-related quality of life outcome measures in cardiac rehabilitation: the Comparison of Cardiac Rehabilitation Outcome Measures (CC-ROM) Study. J Consult Clinical Psychology 2004.

Hunt K, et.al (2003). Blood pressure reactions to stress and the prediction of future blood pressure: effects of sex, age, and socioeconomic position. Psychosom Med 2003;65:1058–64.

Jogson, Y.A. (2010). Distribution of Statistical tables, significance levels of ‘t’ test, akashar publication of ahemdabad (Gujarat), 13-14.

Jogson, Y.A. (2007). Psycho pathology, Introduce to Diagnostic statistical manual-IV (D.S.M.IV), publishing house for Saurashtra University, Rajkot, 15-56.

Kagan J, (1988). Biological bases of childhood shyness. Science 1988;240:167–71.

Kagan J, et.al (1999). Early childhood predictors of adult anxiety disorders. Biol Psychiatry 1999;46:53–61.

Kemeny M,E,(2003). Psychological risk factors for HIV pathogenesis: mediation by the autonomic nervous system. Biol Psychiatry 2003;54:144–56.

Ketterer, M, W, et.al (2004). Men deny and women cry, but who dies? Do the wages of denial’ include early ischemic coronary heart disease? J Psychosom Res 2004;56:119–23.

Kop, W, J, (2003) Chronic and acute psychological risk factors for clinical manifestations of coronary artery disease. Psychosomatic Med 1999;61:476–87.

Kopp M, et.al (2003). Type D personality: cross-sectional associations with cardiovascular morbidity in the Hungarian population [Abstract]. Psychosomatic Med 2003; 65(suppl A):A64.

Kruplani, S.N. (2008). A study of Depression between psychosomatic diseases and normal peoples, Published research paper of Gujarat Psychological Journal, 4.-43, 46.

L. Sher, (2007). A Study of Type-D personality among Male and female of C.H.D. patients, Psychosomatic Medicine, 45, 54-59.

Matthews K, A, et.al (2004). Hostile behaviors predict cardiovascular mortality among men enrolled in the Multiple Risk Factor Intervention Trial. *Circulation* 2004; 109:66–70.

Matthews, K, A, et.al (1998). Are hostility and anxiety associated with carotid atherosclerosis in healthy postmenopausal women? *Psychosom Med* 1998;60:633–8.

Miller TQ, et.al (1996). A meta-analytic review of research on hostility and physical health. *Psychol Bull* 1996; 119:322–48.

Miller G,E, et.al (1999). Personality and tonic cardiovascular, neuroendocrine, and immune parameters. *Brain Behav. Immun.* 1999;13:109–23.

Parmar, S.N. (2010). A study of Type-D personality and Depression between C.H.D. and blood pressure patients. Unpublished research paper, National conference of Stress Management, R.R. Patel Mahila College, Rajkot, 14-16.

Pedersen S, S, et.al (2004). Type D personality predicts death or myocardial infarction after bare metal stent or sirolimus-eluting stent implantation: a Rapamycin-Eluting Stent Evaluated at Rotterdam Cardiology Hospital (RESEARCH) registry sub-study. *J Am Coll Cardiol* 2004;44:997–1001.

Pedersen S,S and Denollet J.(2004). Validity of the Type D personality construct in Danish post-MI patients and healthy controls. *J Psychosom Res* 2004;57:265–72.

Pedersen S,S and Middel B(2001). Increased vital exhaustion among Type D patients with ischemic heart disease. *J Psychosom Res* 2001;51:443–9.

Pedersen S,S et.al (2003). Type D personality, cardiac events, and impaired quality of life: a review. *Euro Journal Cardiovascular Prevention Rehab* 2003;10:24-80.

Pennebaker J, W, et.al (1989). Health complaints, stress, and distress: exploring the central role of negative affectivity. *Psycho Rev* 1989;96:234–54.

Rana, J. M. (2008). A study of Depression and Ego-Strength among C.H.D. and blood pressure patients. Published research paper of Gujarat Psychological Journal, 32-33, 36.

Rana, S, M (2009). A study of Ego strength and Aggressiveness of differential religion people, unpublished thesis, department of psychology Saurashtra University Rajkot, 18-33.

Rozanski A, et.al (1999). Impact of psychological factors on the pathogenesis of cardiovascular disease and implications for therapy. *Circulation* 1999;99:192–217.

S, Herachi,(2009). A study of Type D personality and depression between psychosomatic male and female, *Journal Abnormal Psychology*,1998; 154-167.

Steffen PR, et.al (2003).A. Effects of perceived racism and anger inhibition on ambulatory blood pressure in African Americans. *Psychosom Med* 2003; 65:74–80.

Strik J,J, et.al(2003) A. Comparing symptoms of depression and anxiety as predictors of cardiac events and increased health care consumption following myocardial infarction. *J Am Coll Cardiol* 2003;42:101–7.

Suarez E, C. et.al (1998).Neuroendocrine, cardiovascular, and emotional responses of hostile men: the role of interpersonal challenge. *Psychosom Med* 1998;60:78–88.

S, R,Thomas,(2009).A study of Type D personality and depression between psychosomatic and Normal people, *Journal Abnormal Psychology*,1999; 204-215;223.

Visscher B, R, et.al (1996).Accelerated course of human immunodeficiency virus infection in gay men who conceal their homosexual identity. *Psychosom Med* 1996;58:219–31.

Watson D, et.al (1994). Structures of personality their relevance to psychopathology. *Journal Abnormal Psychology*, 1994;103:18–31.

Waugh, L, V (2010). The Investigation between psychosomatic patients and normal people on Ego strength, *Journal Abnormal Psychology*, 1994; 103:18–31.

Williams J,E, et.al (2000).Anger proneness predicts coronary heart disease risk: prospective analysis from the Atherosclerosis Risk In Communities (ARIC) study. *Circulation* 2000; 101:203–9.

Yan L,L, et.al(2003). Psychosocial factors and risk of hypertension: the Coronary Artery Risk Development in Young Adults (CARDIA) study. *JAMA* 2003;190:218–28.

Zala, K, J (2010). A study of negative affectivity, social inhibition and Depression of C.H.D., Diabetes, Blood pressure and Kidney patients, unpublished thesis, department of psychology Saurashtra university Rajkot, 23-45.

Website References

- 1) www.wikipedia.freeinpsychlopedia**
- 2) www.Google.com**
- 3) www.apa.org**

Appendix

ANOVA FOR TYPE D PERSONALITY

$$1) C = \frac{(\sum X)^2}{N}$$

$$= \frac{(20183)^2}{720}$$

$$= 565768.73$$

$$2) T_{ss} = \sum X^2 - C$$

$$= 623526.46 - 565768.73$$

$$= 57757.73$$

$$3) A_{ss} = \frac{(\sum A_1)^2}{n} + \frac{(\sum A_2)^2}{n} - C$$

$$= 15198.42$$

$$4) B_{ss} = \frac{(\sum B_1)^2}{n} + \frac{(\sum B_2)^2}{n} - C$$

$$= 608.67$$

$$5) C_{ss} = \frac{(\sum C_1)^2}{n} + \frac{(\sum C_2)^2}{n} - C$$

$$= 7106.45$$

$$6) D_{ss} = \frac{(\sum D_1)^2}{n} + \frac{(\sum D_2)^2}{n} + \frac{(\sum D_3)^2}{n} - C$$

$$= 89.67$$

$$7) AB_{ss} = \frac{(\sum A_1 B_1)^2}{n} + \frac{(\sum A_1 B_2)^2}{n} + \frac{(\sum A_2 B_1)^2}{n} + \frac{(\sum A_2 B_2)^2}{n} - C$$

$$= 320.00$$

$$8) AC_{ss} = \frac{(\sum A_1 C_1)^2}{n} + \frac{(\sum A_1 C_2)^2}{n} + \frac{(\sum A_2 C_1)^2}{n} + \frac{(\sum A_2 C_2)^2}{n} - C$$

$$= 184.02$$

$$9) AD_{ss} = \frac{(\sum A_1 D_1)^2}{n} + \frac{(\sum A_1 D_2)^2}{n} + \frac{(\sum A_1 D_3)^2}{n} + \frac{(\sum A_2 D_1)^2}{n} + \frac{(\sum A_2 D_2)^2}{n} + \frac{(\sum A_2 D_3)^2}{n} - C$$

$$= 550.69$$

$$10) BC_{ss} = \frac{(\sum B_1 C_1)^2}{n} + \frac{(\sum B_1 C_2)^2}{n} + \frac{(\sum B_2 C_1)^2}{n} + \frac{(\sum B_2 C_2)^2}{n} - C$$

$$= 530.45$$

$$11) BD_{ss} = \frac{(\sum B_1 D_1)^2}{n} + \frac{(\sum B_1 D_2)^2}{n} + \frac{(\sum B_1 D_3)^2}{n} + \frac{(\sum B_2 D_1)^2}{n} + \frac{(\sum B_2 D_2)^2}{n} + \frac{(\sum B_2 D_3)^2}{n} - C$$

$$= 559.80$$

$$12) CD_{ss} = \frac{(\sum C_1 D_1)^2}{n} + \frac{(\sum C_1 D_2)^2}{n} + \frac{(\sum C_1 D_3)^2}{n} + \frac{(\sum C_2 D_1)^2}{n} + \frac{(\sum C_2 D_2)^2}{n} + \frac{(\sum C_2 D_3)^2}{n} - C$$

$$= 1843.60$$

$$13) ABC_{ss} = \frac{(\sum A_1 B_1 C_1)^2}{n} + \frac{(\sum A_1 B_1 C_2)^2}{n} + \frac{(\sum A_1 B_2 C_1)^2}{n} + \frac{(\sum A_1 B_2 C_2)^2}{n} +$$

$$\frac{(\sum A_2 B_1 C_1)^2}{n} + \frac{(\sum A_2 B_1 C_2)^2}{n} + \frac{(\sum A_2 B_2 C_1)^2}{n} + \frac{(\sum A_2 B_2 C_2)^2}{n} - C$$

$$= 634.69$$

$$14) ABD_{ss} = \frac{(\sum A_1 B_1 D_1)^2}{n} + \frac{(\sum A_1 B_1 D_2)^2}{n} + \frac{(\sum A_1 B_1 D_3)^2}{n} + \frac{(\sum A_1 B_2 D_1)^2}{n} + \frac{(\sum A_1 B_2 D_2)^2}{n} +$$

$$\frac{(\sum A_1 B_2 D_3)^2}{n} + \frac{(\sum A_2 B_1 D_1)^2}{n} + \frac{(\sum A_2 B_1 D_2)^2}{n} + \frac{(\sum A_2 B_1 D_3)^2}{n} + \frac{(\sum A_2 B_2 D_1)^2}{n} +$$

$$\frac{(\sum A_2 B_2 D_2)^2}{n} + \frac{(\sum A_2 B_2 D_3)^2}{n} - C$$

$$= 204.48$$

$$\begin{aligned}
15) \text{BCD}_{ss} &= \frac{(\sum B_1 C_1 D_1)^2}{n} + \frac{(\sum B_1 C_1 D_2)^2}{n} + \frac{(\sum B_1 C_1 D_3)^2}{n} + \frac{(\sum B_1 C_2 D_1)^2}{n} + \frac{(\sum B_1 C_2 D_2)^2}{n} + \\
&\quad \frac{(\sum B_1 C_2 D_3)^2}{n} + \frac{(\sum B_2 C_1 D_1)^2}{n} + \frac{(\sum B_2 C_1 D_2)^2}{n} + \frac{(\sum B_2 C_1 D_3)^2}{n} + \frac{(\sum B_2 C_2 D_1)^2}{n} + \\
&\quad \frac{(\sum B_2 C_2 D_2)^2}{n} + \frac{(\sum B_2 C_2 D_3)^2}{n} - C \\
&= 534.31
\end{aligned}$$

$$\begin{aligned}
16) \text{ACD}_{ss} &= \frac{(\sum A_1 C_1 D_1)^2}{n} + \frac{(\sum A_1 C_1 D_2)^2}{n} + \frac{(\sum A_1 C_1 D_3)^2}{n} + \frac{(\sum A_1 C_2 D_1)^2}{n} + \frac{(\sum A_1 C_2 D_2)^2}{n} + \\
&\quad \frac{(\sum A_1 C_2 D_3)^2}{n} + \frac{(\sum A_2 C_1 D_1)^2}{n} + \frac{(\sum A_2 C_1 D_2)^2}{n} + \frac{(\sum A_2 C_1 D_3)^2}{n} + \frac{(\sum A_2 C_2 D_1)^2}{n} + \\
&\quad \frac{(\sum A_2 C_2 D_2)^2}{n} + \frac{(\sum A_2 C_2 D_3)^2}{n} - C \\
&= 1428.14
\end{aligned}$$

$$\begin{aligned}
17) \text{ABCD}_{ss} &= \frac{\sum A_1 B_1 C_1 D_1}{n} + \frac{\sum A_1 B_1 C_1 D_2}{n} + \frac{\sum A_1 B_1 C_1 D_3}{n} + \frac{\sum A_1 B_1 C_2 D_1}{n} + \frac{\sum A_1 B_1 C_2 D_2}{n} \\
&\quad + \frac{\sum A_1 B_1 C_2 D_3}{n} + \frac{\sum A_1 B_2 C_1 D_1}{n} + \frac{\sum A_1 B_2 C_1 D_2}{n} + \frac{\sum A_1 B_2 C_1 D_3}{n} + \frac{\sum A_1 B_2 C_2 D_1}{n} \\
&\quad + \frac{\sum A_1 B_2 C_2 D_2}{n} + \frac{\sum A_1 B_2 C_2 D_3}{n} + \frac{\sum A_2 B_1 C_1 D_1}{n} + \frac{\sum A_2 B_1 C_1 D_2}{n} + \frac{\sum A_2 B_1 C_1 D_3}{n} \\
&\quad + \frac{\sum A_2 B_1 C_2 D_1}{n} + \frac{\sum A_2 B_1 C_2 D_2}{n} + \frac{\sum A_2 B_1 C_2 D_3}{n} + \frac{\sum A_2 B_2 C_1 D_1}{n} + \frac{\sum A_2 B_2 C_1 D_2}{n} \\
&\quad + \frac{\sum A_2 B_2 C_1 D_3}{n} + \frac{\sum A_2 B_2 C_2 D_1}{n} + \frac{\sum A_2 B_2 C_2 D_2}{n} + \frac{\sum A_2 B_2 C_2 D_3}{n} - C \\
&= 425.27
\end{aligned}$$

$$\begin{aligned}
18) \text{W}_{ss} &= \text{T}_{ss} - \text{A}_{ss} - \text{B}_{ss} - \text{C}_{ss} - \text{D}_{ss} - \text{AB}_{ss} - \text{AC}_{ss} - \text{AD}_{ss} - \text{BC}_{ss} - \text{BD}_{ss} - \text{CD}_{ss} - \\
&\quad \text{ABC}_{ss} - \text{ABD}_{ss} - \text{BCD}_{ss} - \text{ACD}_{ss} - \text{ABCD}_{ss} \\
&= 27539.07
\end{aligned}$$

L.S.D. FOR TYPE D PERSONALITY

$$\begin{aligned} 1) A_{ss} &= t(0.05) \times \frac{2 \cdot w_{ss}(M.S.)}{n} \\ &= 1.97 \times \frac{2(39.57)}{360} \\ &= 0.93 \end{aligned}$$

$$\begin{aligned} &t(0.01) \times \frac{2 \cdot w_{ss}(M.S.)}{n} \\ &2.59 \times \frac{2(39.57)}{360} \\ &= 1.21 \end{aligned}$$

$$\begin{aligned} 2) B_{ss} &= t(0.05) \times \frac{2 \cdot w_{ss}(M.S.)}{n} \\ &= 1.97 \times \frac{2(39.57)}{360} \\ &= 0.93 \end{aligned}$$

$$\begin{aligned} &t(0.01) \times \frac{2 \cdot w_{ss}(M.S.)}{n} \\ &2.59 \times \frac{2(39.57)}{360} \\ &= 1.21 \end{aligned}$$

$$\begin{aligned} 3) C_{ss} &= t(0.05) \times \frac{2 \cdot w_{ss}(M.S.)}{n} \\ &= 1.97 \times \frac{2(39.57)}{360} \\ &= 0.93 \end{aligned}$$

$$\begin{aligned} &t(0.01) \times \frac{2 \cdot w_{ss}(M.S.)}{n} \\ &2.59 \times \frac{2(39.57)}{360} \\ &= 1.21 \end{aligned}$$

$$\begin{aligned} 4) D_{ss} &= t(0.05) \times \frac{2 \text{ wss(M.S.)}}{n} \\ &= 1.97 \times \frac{2(39.57)}{240} \\ &= 1.13 \end{aligned}$$

$$\begin{aligned} &t(0.01) \times \frac{2 \text{ wss(M.S.)}}{n} \\ &2.63 \times \frac{2(39.57)}{240} \\ &= 1.50 \end{aligned}$$

$$\begin{aligned} 4) ABCD_{ss} &= t(0.05) \times \frac{2 \text{ wss(M.S.)}}{n} \\ &= 2.04 \times \frac{2(39.57)}{30} \\ &= 3.30 \end{aligned}$$

$$\begin{aligned} &t(0.01) \times \frac{2 \text{ wss(M.S.)}}{n} \\ &2.63 \times \frac{2(39.57)}{30} \\ &= 4.46 \end{aligned}$$

't' TEST FOR EGO STRENGTH

$$1) SD_1 = \frac{\sum X^2}{n_1}$$

$$2) SD_2 = \frac{\sum X^2}{n_2}$$

$$3) SEM_1 = \frac{SD_1}{n_1}$$

$$4) SEM_2 = \frac{SD_2}{n_2}$$

$$5) SED = (SEM_1)^2 + (SEM_2)^2$$

$$6) \mathbf{'t'} = \frac{M_1 - M_2}{SED}$$