CHAPTER – II
REVIEW OF LITERATURE

➢ Defense Style and Locus of control
➢ Defense Style and Ego Identity
➢ Defense Style and Ego strength
REVIEW OF LITERATURE

The importance of the review of the related literature is expressed in the words by Billy Turney and George Robb as follows “Identification of a problem, development of a research design and the determination of the size and scope of the problems all depend to a great extent on the case and intensity with which a researcher has examined the literature related to the intended research”

Keeping in view the above consideration effort has been made a comprehensive survey of the related study of past years was on –

- Defense Style and Locus of control
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Defense Style and Locus of control

Marjolein van Wijk-Herbrink, Helene Andrea, and Roel Verheul (2011) investigated the associations between cognitive coping (as measured with the Cognitive Emotion Regulation Questionnaire; CERQ), defense mechanisms (as measured with the Defense Style Questionnaire-60; DSQ-60) and personality disorders (PDs; as measured with the SIDP-IV interview) in a large sample of patients with PDs (n = 1,435). Explorative factor analyses indicated that the nine CERQ subscales can be clustered into three higher-order factors (adaptive
coping, non-adaptive coping and external attribution style). When compared to a general population sample, the PD sample particularly scored higher on nonadaptive coping styles. A higher number of PDs was related to a particularly higher level of nonadaptive coping and less mature defensive functioning, but also to lower levels of adaptive coping and external attribution. This study is the first to suggest that three higher-order coping styles can be identified among PD patients, and that these coping styles are related to the presence and number of PDs.

Defense mechanisms are cognitive processes that function to protect the individual from excessive anxiety or other negative emotions. They also protect the person from loss of self-esteem and, in the extreme, the loss of self-integration. Although past critics questioned the existence of defense mechanisms, recent research has supported seven basic tenets regarding defenses. These include: (1) defenses function outside of awareness; (2) there is a chronology of defense development; (3) defenses are present in the normal personality; (4) defense use increases under conditions of stress; (5) defense use reduces the conscious experience of negative emotions; (6) defense function is connected to the autonomic nervous system; (7) excessive use of defenses is associated with psychopathology. Phebe Cramer (2009)

In study of Cramer & Tracy (2005) the use of mature defenses is found to be associated with positive personality characteristics, such as empathy, higher self-esteem, an internal locus of control, competence, self-confidence, outgoingness and a secure attachment style. In contrast, the use of immature defenses is associated with indications of difficulty,
such as irresponsibility, self-centeredness, unclear “fuzzy” thinking, and anxiety.

Averitt Emily (2005), explored the possible interrelatedness of sense of humor, defense mechanism style, level of trait-type anxiety, and locus of control; to compare any trait patterns that occur among these constructs; and to generate ideas about the significance of these patterns and their implications for clinical application. Participants were 100 individuals, 18 years of age or older, predominantly from the student body of a medium-sized southern university. Participants were asked to complete the Multidimensional Sense of Humor Scale (MSHS), Defense Style Questionnaire-40 (DSQ-40), State-Trait Anxiety Inventory-Trait Scale (STAI-T), and the Rotter Internal-External Locus of Control Scale (Rotter I-E), as well as a demographic questionnaire. Results of a component analysis of these data reveal two distinct trait patterns. The first component pattern is characterized by high scores for the Neurotic and Immature factors of the DSQ-40, high scores on the Rotter I-E scale (indicating an external locus of control), and high scores on the STAI-T (indicating high anxiety). The second component pattern is characterized by high scores for the Mature factor of the DSQ-40, high scores on the MSHS, and low score on the STAI-T. Correlations also occurred between several pairs of constructs. There was a positive correlation between sense of humor and the use of mature defense mechanisms, there was a positive correlation between high trait anxiety and an external locus of control, there was a positive correlation between an external locus of control and the use of neurotic and immature defense mechanisms, there was a negative correlation between anxiety and the use of mature defense mechanisms, and there was a positive correlation between anxiety and the
use of neurotic and immature defense mechanisms. These data reveal that there are distinct trait patterns among these constructs. It may be advantageous to understand that individuals experiencing anxiety disorders may also lack many mature coping strategies and may have an external locus of control. For these individuals, focusing on the development of a mature defense style, increasing a personal sense of control and diminishing feelings of helplessness may increase the success of the therapy. Working toward shifting this entire set of traits may prove more successful than focusing on any one single construct.

Jeannette Milgrom and Glenda Beatrice (2003) investigated cognitive and defense styles of women experiencing postnatal depression. Women diagnosed with postnatal depression were recruited while inpatients at mother–baby units in Melbourne, Australia. A comparison control group was recruited from Maternal and Child Health Centres. Mothers took part in structured interviews and completed psychometric questionnaires when their infants were 3 months old, with a follow-up at 24 months. Women with postnatal depression used different cognitive and defense styles to non-depressed women 3 months after the birth of their baby. Unlike non-depressed women, depressed women tended to use more irrational cognitions and less mature defense styles. Their locus of control indicated a common belief that ‘powerful others’ had control of their lives. This trend was stable over time, when the majority of women had recovered from their depression at 24 months even when ongoing depressive symptoms were controlled for statistically. By contrast, certain cognitive and defense styles appeared linked with the depressive episode. The study paints a profile of women with postnatal depression that is consistent with cognitive and psychodynamic theories of depression,
suggesting certain characteristics render some women psychologically vulnerable to stressors in the postnatal period, while others are specific to the depressive state itself.

Michelle Kermode, Jane Fisher1 and Damien Jolley (2000) investigated the relationship between health insurance status and mood during pregnancy and following childbirth. 320 women were recruited in the early stage of pregnancy to participate in a longitudinal, prospective study of the psychological aspects of childbirth among multiparous women. Study volunteers were surveyed during each trimester of pregnancy and 2 and 8 months following childbirth. A range of self-administered psychometric tests were used to assess mood (Profile of Mood State), locus of control, defense style and partner support. Demographic information including health insurance status was noted at study entry. Results revealed that public patients consistently had a more disturbed mood compared with private patients. This difference reached statistical significance during the second and third trimesters of pregnancy and 8 months after birth. Multivariate analysis was undertaken to identify predictors of mood during pregnancy and following birth. A better mood score was positively associated with private health insurance, a more caring partner and mature defense style, and negatively associated with external locus of control and immature defense style. A distinct mood pattern during pregnancy and following childbirth was observed and is described.

Emery (1999) compared adaptive and maladaptive strategies within 111 people with mood and anxiety disorders. Respondents completed the Defense Style Questionnaire (measure defense), Rotter IE
Scales (measure locus of control), Belonging-Social Interest (BSI) scale of the BASIS-A. Emery (1999) conducted correlations among the socio-demographic groups. The results indicated a positive relationship between adaptive strategies of mature defenses and internal control. In addition, mature defenses positively correlated with social interest in males, but not females. The BSI did not correlate with locus of control or defenses and there was no relationship between intermediate or immature defense factors and locus of control. There was also no significant overlap between adaptive strategies. These results suggested that this study provided a unique interpretation about each participants approaches to life, rather than indicating different expressions of the same underlying strategies.

Gavin Andrews, Christopher Pollock and Gavin Stewart (1989) studied on The Determination of Defense Style. The Defense Style Questionnaire was relabeled in terms of DSM-III-R defenses and administered to three groups: a normal population, family practice patients, and patients with anxiety disorders. The preferred factor structure identified mature defenses (sublimation, humor, anticipation, and suppression), neurotic defenses (undoing, altruism, idealization, and reaction formation), and immature defenses (projection, passive aggression, acting out, etc). Factor scores varied systematically with group membership and with measures of total symptoms. In this cross-sectional study, the vulnerability factors of neuroticism, locus of control, and defense style were all correlated with neurotic symptoms, but defense style added little to the variance explained by the other two. Within the patient group, however, neuroticism and locus of control did not distinguish among panic disorder, agoraphobia, social phobia, and
obsessive-compulsive disorder, while defense style showed patterns characteristic of each disorder.

In study of Ross R. Vickers, Jr., Terry L. Conway and Michael A. Haight (1983) the hypothesis that external control would be related to higher defensiveness and internal control to better coping was tested in a sample of 2648 Marine Corps recruits using Levenson's Chance, Powerful Others, and Internal Control scales and 20 coping and defense measures developed by Joffe and Naditch. Results revealed that external control perceptions were associated with higher defensiveness and lower coping. Internal control was positively, but weakly, correlated to several coping scales. An important contrast between internal and external control orientations was the apparent use of different defensive styles. Internals tended to use defenses that deny stress or threats or that find something positive about the stressful situations. Externals employ defenses which would be associated with child-like behaviors and a tendency to blame others for their problems when under stress. Overall the two external scales were generally related to higher defensiveness and lower coping. These associations were particularly pronounced for Chance. Internal control had mixed positive and negative correlations to defenses. The previously observed association of externality and poor adjustment may be based on low coping capacity combined with an externalizing (i.e., displacing, projecting) defensive style. Internals may fare better because of a slight tendency toward higher coping or because of a tendency to use a denying or reversing defense style. They further concluded that the moderate overlap of coping and defense with perceived control means that the two categories of personality variable can potentially contribute independently to adaptation to basic training.
Both should be included in research on the effects of stress in training, but analysis procedures must allow for the association between the two when relating these personality measures to training performance and stress reactions.

**Brian Kelly, & all (1998)** performed a cross-sectional study in order to investigate the prevalence and predictors of suicidal ideation and past suicide attempt in an Australian sample of human immunodeficiency virus (HIV)-positive and HIV-negative homosexual and bisexual men. Sixty-five HIV-negative and 164 HIV-positive men participated. A suicidal ideation score was derived from using five items selected from the Beck Depression Inventory and the General Health Questionnaire (28-item version). Lifetime and current prevalence rates of psychiatric disorder were evaluated with the Diagnostic Interview Schedule Version-III-R. The HIV-positive (Centers for Disease Control and Prevention [CDC] Stage IV) men (n=85) had significantly higher total suicidal ideation scores than the asymptomatic HIV-positive men (CDC Stage II/III) (n=79) and the HIV-negative men. High rates of past suicide attempt were detected in the HIV-negative (29%) and HIV-positive men (21%). In the HIV-positive group, the following variables contributed to a significant discriminant function: a positive lifetime history of injection drug use (0.69), DSQ–immature defense score (0.43), a positive family history of attempted suicide (0.34), and external locus of control (0.31) (Canonical correlation=0.42, $\chi^2=22.21$, df=4, P<0.001) (Centroids: no history=-0.23, positive history of attempted suicide=0.93). Factors associated with suicidal ideation included being HIV-positive, the presence of current psychiatric disorder, higher neuroticism scores, external locus of control, and current unemployment. In the HIV-positive
group analyzed separately, higher suicidal ideation was discriminated by the adjustment to HIV diagnosis (greater hopelessness and lower fighting spirit), disease factors (greater number of current acquired immunodeficiency syndrome [AIDS]-related conditions), and background variables (neuroticism). Significant predictors of a past attempted suicide were a positive lifetime history of psychiatric disorder (particularly depression diagnoses), a lifetime history of injection drug use, and a family history of suicide attempts. The findings indicate increased levels of suicidal ideation in symptomatic HIV-positive men and highlight the role that multiple psychosocial factors associated with suicidal ideation and attempted suicide play in this population.

Defense Style and Ego Identity

Nghe, Linh T.; Mahalik, James R. (2001) examined the relationship between racial identity statuses and the use of psychological defenses in 80 African American college students who completed the Black Racial Identity Attitude Scale (J. E. Helms & T. A. Parham, 1996), Defense Mechanism Inventory (G. C. Gleser & D. Ihilevich, 1969), and the Defense Style Questionnaire—40 (G. Andrews, M. Singh, & M. Bond, 1993). The canonical analysis indicated that pre-encounter and encounter ego statuses were positively related to neurotic psychological defenses as well as defenses of principalization and reversal. The immersion ego status was positively related to immature psychological defenses as well as turning against object and projection. The emersion ego status was positively related to mature psychological defenses as well as turning against object and projection. The authors believe these results provide additional support for J. E. Helms's (1995) racial identity model,
because racial identity ego statuses predicted how African Americans managed painful affect. The discussion also focuses on implications of these results for counseling and future research.

**Damanjit Sandhu, Suninder Tung (2007)**, *Psycho-Social Predictors of Identity Formation in Adolescence* Pakistan journal of psychological research 22(2).

**Damanjit Sandhu, Suninder Tung 2007** conducted study on 600 Indian adolescents with an aim to understand the various psychosocial variables which predict high or low identity achievement, moratorium, foreclosure, and diffusion in adolescents. Extended Objective Measure of Ego Identity Status-2 (Bennion and Adams, 1986); Emotional Autonomy Scale (Steinberg and Silverberg, 1986); Family Environment Scale-Form R (Moos and Moos, 1986); California Psychological Inventory (Gough, 1975); Terrance Test of Creative Thinking (Torrance, 1966); and Standard Progressive Matrices (Raven, 1983), were used. Discriminant analyses revealed that variables predicting higher identity achievement, higher moratorium, lower diffusion, and lower foreclosure scores were emotional autonomy, family environment characterized by cohesion, positive interpersonal relationships, encouragement for personal growth and organisation, personality patterns portraying interpersonal/intrapersonal maturity, character, achievement potential and superior intellect modes, and cognitive patterns. However, lower identity achievement, lower moratorium, and higher diffusion scores are predicted by conflict in the family and fluency of ideas on creativity tasks.
Different models have been developed to capture an individual’s defensive functioning, including the DSM-IV Defensive Functioning Scale (DFS). These different models are often used to distinguish between psychologically healthy individuals and individuals presenting with a mental disorder, or to demonstrate change in patients over the course of and following treatment. Yet, despite evidence that men and women rely on different defense mechanisms, most if not all studies into defenses rely on the same model for both genders. Using samples of 517 women and 124 men, this study aimed to examine the extent to which a proxy of the DFS model of defense mechanisms, and the model underlying the Defense Style Questionnaire, can be adequately applied to men and women. Confirmatory factor analyses indicated that neither model accurately reflects men or women’s defensive functioning. Implications of this for research and practice are discussed. **Martin Drapeau, Katherine Thompson, Jonathan Petraglia, Kylie Louise Thygesen and Serge Lecours (2011).**

**Michael D. Berzonsky and Andrew Kinney (2009)** investigated the relationships between identity processing styles and patterns of defense mechanisms, 213 participants (Mean age = 23.01 years) completed measures of defense-mechanism clusters and styles of negotiating (or managing to avoid) identity conflicts and threats (64% of the participants were female). A self-exploratory, informational identity style was associated with defense mechanisms that control anxiety and threats via internal cognitive maneuvers. In contrast, a diffuse-avoidant identity style was found to be related to maladaptive defensive maneuvers including turning against others and turning aggression inward against oneself, which is related to depressive reactions. A foreclosing, normative
identity style was associated with defenses that limit awareness of threatening ideas and information by denial, distortion, and negation. None of these relationships was qualified by age or gender. The findings are discussed in terms of a process model of identity development that emphasizes social-cognitive differences in how individuals construct, maintain, and reconstruct their self-identity.

In study of **Phebe Cramer (2004)** Change in the adult identity of 155 participants from the Intergenerational Study, Institute of Human Development, was examined across a period of 24 years, and was related to theory-based life experiences and the use of defense mechanisms. The results indicated an increase in Achieved, Moratorium and Foreclosed Identity, and a decrease in Diffusion. As was expected from previous research and theory, identity change in middle adulthood and late middle age was predicted by use of the defense of identification. In addition, life experiences in the areas of work, marital and family relationships, social network, and political orientation were significantly related to identity and identity change. For both defenses and life experiences, IQ significantly moderated the predictions of identity change.

**Jane Kroger (2000)** presented brief report to overviews developments in the field of ego identity status research over the past 35 years and suggests directions for identity status research as we enter the new millenium. In the mid 1960s, James Marcia (1966, 1967) expanded Erik Erikson’s (1968) concept of ego identity to suggest four qualitatively different styles by which late adolescents undertake identity-defining psychosocial commitments. Over the ensuing decades, identity status research focused primarily on validating the identity statuses and finding
associated personality correlates, examining patterns of change over time, and investigating familial communication patterns associated with each of the identity positions. Research in the new millennium might fruitfully address the course and contents of identity beyond late adolescence as well as predictors of developmental arrest. A greater range of developmental contexts in which identity formation occurs is also in need of examination. Ultimately, an individual’s interpretation of context and further mediating events that may be associated with identity status resolutions are critical to a more complete understanding of the identity formation process.

Cramer, Phebe (1997) investigated the relationships among identity, defense mechanisms, and self-esteem, which were demonstrated in a previous study based on self-report data (P. Cramer, 1995), using observer-based measures and older Subjects. Subjects included ninety-one 23 yr olds who were part of a longitudinal study (J. Block and J. H. Block, 1980). Several measures were used including the Q-sort Prototypes for Ego Identity Status. Consistent with Cramer (1995), there was a clear relationship between identity crisis and the use of defense mechanisms. In addition, as in the earlier study, the Achieved and Foreclosed personalities were both associated with high self-esteem, while the noncommitted personalities of Moratorium and Diffusion were related to low self-esteem. In Cramer (1995) which included adolescent Subjects, the majority of Subjects were in the Diffused and Moratorium identity statuses, whereas in the present study which included older Subjects, Achieved identity was the most common personality and Diffused identity was the least common, indicating a development progression in identity.
Silverstein R. (1996) studied the relation between combat-related trauma experience and male ego development and the impact of such trauma on subsequent employment, marital, and legal behavior were investigated empirically. Vietnam combat veterans (N = 52) diagnosed with post-traumatic stress disorder (PTSD) completed the Defense Style Questionnaire (DSQ), the Ego Identity Scale (EIS), and the Impact of Event Scale (IES); 45 noncombat Vietnam-era veterans (not diagnosed with PTSD) completed the DSQ and the EIS. Combat veterans were found to use more maladaptive defenses and have lower levels of identity achievement. Failed marriages, employment problems, and the tendency to experience legal difficulties were more prevalent among the combat veterans. Data analyses showed that identity and defenses do indeed correlate, suggesting that these constitute a unified construct that can be subsumed under the rubric of ego development.

In study of Phebe Cramer (1995) the relationships among Marcia’s (1980) identity status, the components of narcissism, and three ego defense mechanisms (denial, projection, and identification) were explored in a group of late adolescents as they began college. The results indicated that experiencing an identity crisis (statuses of Moratorium and Diffusion/Moratorium) was associated with the use of all three defenses, but not with narcissism. Commitment to an identity without having experienced a crisis (statuses of Foreclosure and Diffusion/Foreclosure) was associated with defensive narcissism, but not with ego defenses. Commitment to an identity after having experienced a crisis (Achieved status) was associated with both adaptive and defensive narcissism and minimally with the defense of identification.
The study of Jane Kroger and Stephen J. Haslett (1988) was undertaken to clarify developmental relationships between intrapsychic object relations structure and ego identity status during late adolescence; one purpose was to examine the possible predictive relationship between initial attachment style and later identity status. A total of 76 subjects (41 females and 35 males) who had been given the Marcia Ego Identity Status Interview and the Hansburg Separation Anxiety Test (SAT) as first-year university students in 1984 were reassessed two years later. Fitted log linear models indicated strong links between attachment style and identity status in 1986, and between identity status in 1984 and 1986; only an indirect connection existed between attachment style in 1984 and 1986 as measured by the SAT. When 1984 and 1986 identity status were known, it was possible to predict 1986 attachment style without knowing 1984 attachment style; 1984 attachment style alone was unable to predict later identity status accurately.

Leanne K. Lamke and Kitty G. Peyton (1988) investigated the relationship between sex-role development and ego development in a sample of 9th–12th grade Anglo-American and Mexican-American students attending high school in a southwestern state. All students were administered: (a) the Extended Objective Measure of EgoIdentity Status (Grotevant and Adams, 1984) as a measure of ego development (i.e., diffusion, foreclosure, moratorium, and identity achievement), and (b) the Personal Attributes Questionnaire Short Form (Spence, Helmreich and Stapp, 1975) as a measure of masculinity and femininity. Results indicated no ethnic differences in the relationship between egoidentity and masculinity/femininity. Adolescents who were identity achieved on ideological identity formation had significantly higher levels of
masculinity than did moratorium, foreclosed, and diffused individuals. For interpersonal identity, identity achieved adolescents had higher levels of both masculinity and femininity than did individuals who were foreclosed, diffused, or in moratorium. Discussion centered on these results in light of the additional finding that there was little shared variance (eta2) between masculinity, femininity and ego identity.

A number of concepts central to Erikson's theory of ego identity formation are discussed in relation to Marcia's identity status paradigm in light of the fact that both assign a significant role to the notion of identity crisis. The results of an empirical investigation by J. E. Côté and C. Levine (1987) revealed that Erikson's notions of institutionalized moratoria, value orientation stages, and the ego-superego struggle for dominance of the personality are related to the identity status categories in a way that can be partially explained in terms of the degree to which an individual has experienced the identity crisis. Further explanations for the pattern of findings are offered in terms of Erikson's theory. These explanations clarify, to a degree, the nature of the identity statuses from a social psychological perspective.

James Cote and Gary T. Reker (1979) examined the relationship between the concepts of cognitive complexity and ego identity formation. Male university students were interviewed and divided into three ego identity statuses: diffusions, moratoriums (both in crisis) and achievements (resolution). The hypothesis that the cognitive structure of in crisis statuses would be characterized by higher levels of differentiation and articulation compared with the resolution status received partial support. Identity diffusions possess more functionally
independent constructs; identity moratoriums have constructs high in discrimination power. In addition, in crisis individuals tend to have a generalized cognitive strategy for construing liked and disliked interpersonal figures, while resolution subjects are more adept at employing a vigilance strategy whereby it is more adaptive to construe disliked others more complexly. The findings support the notion that a synthesis of aspects of cognitive and ego psychology is not only feasible but highly desirable.

Defense Style and Ego strength

Hyphantis TN, Christou K, Kontoudaki S, Mantas C, Papamichael G, Goulia P, Konitsiotis S, Mavreas V. (2008) investigated disease parameters, defensive styles and ego strength measurements associated with various forms of psychiatric complications in patients with multiple sclerosis (MS). Seventy-nine patients with MS participated in the study and 158 healthy subjects matched for age and sex served as controls. A wide range of clinical information was collected and the following self-report instruments were used: General Health Questionnaire, Symptom Distress Check List, Defense Style Questionnaire, MMPI Ego Strength Scale and Hostility and Direction of Hostility Questionnaire. Results revealed that the odds of being assessed with a psychiatric diagnosis upon interview were 6.7 times greater among patients compared to controls and 9.3 times greater among patients with recent-onset MS compared to patients with long-term disease. Psychiatric complications of MS were closely associated with age of the disease onset and the degree of disability due to MS. Additionally, higher rates of introverted hostility, adoption of maladaptive ego defenses and weakened
ego strength were also closely associated with several forms of psychological distress, especially depressive symptoms. They concluded that MS patients experience elevated symptoms of psychological distress, especially depressive symptoms, which are most closely associated with disease parameters. However, the crucial role of various personality traits such as ego defenses and hostility features in the psychiatric symptom formation also appear to contribute to the development of depressive symptoms.

Seth J. Schwartz, Ronald L. Mullis, Alan S. Waterman and Richard M. Dunham (2000) investigated the relationships among three sets of identity constructs, including the ego identity statuses, the identity styles, and personal expressiveness. The Ego Identity Process Questionnaire was used to assess identity status as conceptualized by J. E. Marcia. The Identity Style Inventory was used to assess identity style as conceptualized by M. D. Berzonsky. The Personally Expressive Activities Questionnaire was used to measure feelings of personal expressiveness as described by A. S. Waterman. Data were collected from two samples of students at two universities. The measures were considered in pairs to examine the convergence among the constructs. Results revealed that these three measures, and perhaps the underlying constructs, are convergent.

In study of By Pacini, Rosemary; Epstein, Seymour (1999) a new version of the Rational-Experiential Inventory (REI), which measures rational and experiential thinking styles and includes subscales of self-reported ability and engagement, was examined in two studies. In Study 1, the two main scales were independent, and they and their
subscales exhibited discriminant validity and contributed to the prediction of a variety of measures beyond the contribution of the Big Five scales. A rational thinking style was most strongly and directly related to ego strength, openness, conscientiousness, and favorable basic beliefs about the self and the world, and it was most strongly inversely related to Neuroticism and Conservatism. An experiential thinking style was most strongly directly related to Extraversion, Agreeableness, Favorable Relationships Beliefs, and Emotional Expressivity, and it was most strongly inversely related to Categorical Thinking, Distrust of Others, and Intolerance. In Study 2, a rational thinking style was inversely related and an experiential thinking style was unrelated to nonoptimal responses in a game of chance. It was concluded that the new REI is a significant provident over the previous version and measures unique aspects of personality.

The study of Robert Plutchik, Alexander J. Botsis & Herman M. Van Praag (1995) focused on the nature of the correlations between such ego functions as self-esteem. Reality testing and ego-strength and measures of suicide and violence risk. Also included were measures of sexual drive and conflict, as well as depression and impulsivity. Significant positive correlations were found between suicide risk and poor reality testing, sexual conflict, depression and impulsivity. Violence risk was significantly related only to the measure of sexual drive. Inverse correlations were found between suicide risk and both ego-strength and self-esteem. These findings are interpreted in terms of a two-stage model of countervailing forces.
In study of Vadims Rotenberg and A. N. Michailov (1993) correlations between data of psychological defense mechanisms (according to the Plutchik questionnaire) and MMPI as well as 16 PF data were analyzed in 56 healthy subjects and 70 patients with different somatic diseases. RESULTS revealed that there are no stable correlations between data of psychological defense mechanisms and either the MMPI or 16PF. These correlations are determined by gender, level of psychic adaptation, and the presence or absence of somatic disorders. For example, in healthy women general emotional tension (anxiety, factor FI of 16PF) correlates positively with displacement and repression (0.45 and 0.50) while in healthy men the same factor correlates with regression, compensation and projection (0.45, 0.43 and 0.39, correspondingly). In somatic patients of group A (low level of MMPI) denial correlates positively with Ma scale (0.44) and negatively - with the scale Introversion-Extraversion (-0.41) of MMPI. In those somatic patients who displayed a moderate MMPI level, denial correlated negatively with the scale of a social behavior (-0.41), and when MMPI score was high, there were no significant correlations between denial and clinical MMPI scales. In subjects with the leading D scale of MMPI, denial correlated negatively with the scale of asocial behavior (-0.50), while in subjects with leading Hs and Hy scales it was a negative correlation with Hy scale (-0.56). Further healthy subjects as a group, compared to somatic patients, have significantly more correlations between defense mechanisms and MMPI scales as well as 16 PF factors. In healthy subjects one clinical scale of MMPI or one factor of 16 PF test correlates, in average, with 3 defense mechanisms, while in somatic patients only with one mechanism (p<0.01). The total number of correlations between clinical MMPI scales and psychological defense mechanisms in healthy subjects exceeds the total number of such correlations even in patients who belong to group A.
according to MMPI. In the patient group, there is a positive correlation between repression and D scale (0.48). This correlation characterizes not only subjects with leading D scale (depression), but also subjects with leading Pa scale, and is common both for Å and Ñ MMPI groups. Thus, it is the most stable correlation in the group of patients. The data support the conclusion that D score is significantly higher in patients with a high level of repression compared to patients with a low level of repression (p<0.01). It also suggests that repression prevails in patients with passive behavior (Plutchik et al., 1979). 4. In the patient group defense mechanisms are much more "strained" than in healthy subjects, especially denial, regression, projection, displacement and reaction formation. However, this difference is gender dependent and is visible only in men. Sick women differ from their control group only in regression. At the same time sick men differ from healthy women only in the level of denial (p<0.01). On the other hand, sick women differ from healthy men according to the defense mechanisms as much as healthy women differ from healthy men: in both women's groups the strain of regression, projection, displacement and reaction formation is higher than in healthy men, while in healthy men the strain of intellectualization is higher. It is necessary to take into consideration that intellectualization is the most adaptive and highly-developed defense mechanism. In women factor C - ego strength - correlates negatively with repression and displacement. In healthy women a general emotional tension - anxiety (factor F, of 16 PF) has a positive correlation with repression (0.45), while in healthy men F correlates positively with displacement, regression, projection and compensation. Denial correlates positively with factors E (0.42), A (0.47) and Q3 (0.35) and negatively - with factor Q4 (-0.33). He further concluded that there are no stable correlations between defense mechanisms and psychic state estimated by MMPI and 16 PF test. This
suggests that psychological defense mechanisms are flexible and the organization of the psychological defense as well as its correlation with clinical state and behavior depends on many different factors. It appears that the same defense mechanisms may play different roles in different conditions and in different psychic states, according to their hierarchy (A. Freud) and to global context of situation. This data does not confirm the proposition (Plutchik et al., 1979) of the definite and specific relationships between defense mechanisms and emotional state. It also does not confirm the hypothesis that every type of personality is characterized by only one structure of psychological defense mechanisms. It is possible to speculate that healthy subjects, in comparison to somatic patients with low or poor ego strength, have a rich repertoire of defense behavior. The restriction of defense mechanisms can be an important part of the pathogenesis of psychosomatic disorders. Even when healthy subjects have the same traits of personality as patients have (according to MMPI and 16 PF), they are able to use a broader spectrum of defense mechanisms which increases their adaptability. It is necessary to stress that in healthy subjects defense mechanisms correlate predominantly with those clinical scales of MMPI that represent the most stable personal attitudes, while there are only few correlations with so called neurotic scales. overall It was found that these correlations depend on gender, on the level of psychic adaptation and on the presence or absence of somatic disorders. Healthy subjects as a group, compared to somatic patients, have significantly more correlations between defense mechanism and MMPI scales as well as 16 PF factors. It reflects a rich repertoire of defense behavior in healthy subjects. In the patient group the most prominent and stable is the positive correlation between repression and D scale. The strain of defense mechanisms in the patient group is higher than in the group of healthy men. Healthy women according to
their defense mechanisms are more similar to the patient group than to the group of healthy men.

**Timothy Anderson and Larry M. Leitner (1991)** explored relationship of defense mechanisms, as measured by the Defense Mechanisms Inventory, to the SCL-90-R and the MMPI. A total of 173 college female subjects participated. A canonical analysis of the defense variables with the symptom variables revealed two significant groupings. First, a clear introjecting defensive style was found to be related to high amounts of reported depression, anxiety, introversion, and global symptomatology (depression, suicide attempts, low Ego Strength). Second, a ‘healthy’ defense grouping was negatively related to the symptom variables. This second grouping also was positively influenced by scores on M-F. The results were interpreted as supporting a single symptomatic dimension on the DMI, as well as suggesting that greater androgyny is associated with more healthy defensive functioning.

**Thalma E. Lobel, Orna Kashtan and Guy L. Winch (1987)** investigated the relationship between three personality constructs, defense mechanisms as measured by the DMI (Gleser and Ihilevich, 1969), trait anxiety, and need for approval (nApp). 92 undergraduates completed the DMI, Spielberger, Gorsuch and Lushene (1970) A-Trait scale and the Marlowe-Crowne Social Desirability [MC-SD] scale. It was found that for females, defenses that turn anger towards others or towards the self were positively related to trait anxiety while defenses such as denial, repression, rationalization and intellectualization were negatively related to trait anxiety. No relations between defenses and A-Trait were found for males. It was also found that the approval motivated subjects
reported less A-Trait as compared to low-nApp individuals and preferred to use socially desirable defenses such as repression, denying or reaction formation. Those who scored low on nApp preferred to use defenses which are less socially desirable. Gender differences in the effectiveness and social desirability of the different defenses are discussed.

The relationship between DSM-III diagnosis and defense style was studied in a sample of 74 psychiatric patients by Michael Peter Bond and Jacqueline Sagala Vaillant (1986). The subjects completed a self-administered questionnaire composed of 81 statements about behaviors, thoughts, and feelings, which were designed to reflect various unconscious defense mechanisms. Factor analysis yielded four defense styles ranging on a continuum from primitive to mature. Patients' defense styles were compared with their diagnoses on axes I, II, and IV of DSM-III. Significant relationships were found between defense style and only one diagnosis, major affective disorder. The fact that DSM-III diagnosis could not predict defense style suggests that diagnosis and defense style are two independent dimensions. If this can be confirmed by further, more adequate studies, a sixth axis reflecting psychodynamic formulation would provide additional information necessary for therapeutic planning.

In study of Michael Bond, Susan T. Gardner, John Christian and John J. Sigal (1983) self-administered questionnaire that would indicate a person's perception of his or her habitual defensive style was constructed and tested. The hypotheses assessed were that defenses cluster so as to constitute "styles" and that these styles can be ranked as more or less adaptive. The sample comprised 98 psychiatric patients and 111 nonpatients. The tools used were (1) a questionnaire measure of self-
appraisal of defensive style, (2) a questionnaire measure of ego adaptation, and (3) a sentence completion measure of ego development. The results, which argued strongly for the validity of a questionnaire measure of perceived defensive style, also showed that such defenses tend to cluster into styles that can be ranked on a developmental continuum, from "maladaptive action patterns," through "image-distorting" defenses, "selfsacrificing" defenses, and "adaptive" defenses.

**King, G. F.; Schiller, M. (1960)** done study on Ego strength and type of defensive behaviour revealed that In situations eliciting defensive behavior, level of ego strength is related to use of rationalization rather than denial or projection.

**R. D. Brown, MD, and Susan T. Gardner** reported relation between a maladaptive defense style and low scores on an independent test of ego strength in their PhD study.