CHAPTER - III
REVIEW OF THE LITERATURE

A review of related literature is imperative in order to understand, the relations of variables in the current study, and decide about the general framework of the study and of the expected results. There exists a vast amount of research in each of the variables chosen because they are each an area of intense research and exploration. As a result, an attempt has been made in the following review, to focus only on the literature, which is directly related to the current work. The scope of this review is limited to studies dealing with the variables impact on adult population.

For the sake of clarity, the studies are dealt with under the following heads:

1. Alexithymia and sociodemographic characteristics.
2. Alexithymia and somatoform disorder.
3. Alexithymia and social support.
4. Alexithymia and life events.
5. Alexithymia and coping.
6. Alexithymia and family functioning.
7. Alexithymia and verbal fluency.

ALEXITHYMIA AND SOCIODEMOGRAPHIC CHARACTERISTICS

Most studies have reported that alexithymia as measured by the TAS, is correlated with age, sex, education and socioeconomic status. Some studies have however reported no such direct relationship.
Some recent works are listed in Table-1 which indicate a negative correlation of alexithymia with education, socioeconomic status, income and occupation. Results regarding relationship of alexithymia with age and gender are far from unequivocal. However, there is marked dearth of studies in India on alexithymia and its relationship to socio demographic variables. Although, the primary aim of the current study does not pertain to this, any information on it would be of clinical significance.
# SUMMARY OF STUDIES ON SOCIODEMOGRAPHIC CHARACTERISTICS OF ALEXITHYMIA

<table>
<thead>
<tr>
<th>Study/sample</th>
<th>Measure used</th>
<th>Variable included</th>
<th>Findings/ conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane, Sechrest, Reidel, Weldon, Kaszniak, and Schwartz. (1996) N = 380. Community survey.</td>
<td>TAS- 20</td>
<td>Socioeconomic status, gender, age.</td>
<td>Significant correlation of high TAS score with lower socioeconomic status, male gender and older age (P&lt; 0.01. results significant even on hierarchical multiple regression analysis.</td>
</tr>
<tr>
<td>Salien, Saanjarvi, Aarela and Tamminen (1994) N1=80 1 Year follow up study N2 = 54. Psychiatry OPD patients</td>
<td>TAS – 26</td>
<td>Gender</td>
<td>Men were more alexithymic than women both at the baseline and at the follow up evaluations.</td>
</tr>
<tr>
<td>Pandey, Mandal, Taylor, and Parker (1996) N= 285 Indian adults</td>
<td>TAS – 20</td>
<td>Age, gender, education</td>
<td>Total score of women was significantly high than that of men. However after Bonferroni correction, women, were found to score significantly higher than men only on Factor – 2. Significantly negative correlation with education was present. No relationship with age.</td>
</tr>
<tr>
<td>Kirmayer and Robbins (1993) n= 244 Family medicine Patient</td>
<td>TAS – 26</td>
<td>Age gender, education, income,</td>
<td>No relation with gender. Significantly positive correlation with age, and significantly negative correlation with education and income.</td>
</tr>
<tr>
<td>Kaiuhanen, Kaplan, Julkunen, Wilson, and Salonen (1993) N = 2682 Middle aged men</td>
<td>TAS – 26</td>
<td>Education, income, occupational status.</td>
<td>Education, income and occupational status were all inversely related to the TAS score. These associations remained statistically significant after adjustment for confounding factors.</td>
</tr>
</tbody>
</table>
Alexitymia and low emotional awareness were associated with older age, male gender, lower socioeconomic status, and fewer years of education.

<table>
<thead>
<tr>
<th>Study</th>
<th>Participants</th>
<th>Measures</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane, Sechrest, and Riedel (1998)</td>
<td>N = 380 Community stratified sample.</td>
<td>i) TAS – 20 ii) Levels of Emotional Awareness scale</td>
<td>Alexithymia and low emotional awareness were associated with older age, male gender, lower socioeconomic status, and fewer years of education.</td>
</tr>
<tr>
<td>Kokkonen, Karvonen, Veijola, Laky, et al (2001)</td>
<td>N = 5993 Population cohort.</td>
<td>i) TAS – 20 ii) Hopkins Symptom Chuck List (HSCL – 25)</td>
<td>Alexithymia was associated with poor education and low income level and it was more common among unmarried subjects. After adjusting for psychological distress, these associations remained statistically significant. Prevalence was higher in men than in women and it was associated with poor social situation.</td>
</tr>
<tr>
<td>Parker, Taylor, and Bagby, (1993)</td>
<td>N = 216 University students.</td>
<td>TAS – 20</td>
<td>Men scored significantly higher than women on the TAS.</td>
</tr>
<tr>
<td>Pasini, Chiaie, Senpa and Ciani (1992)</td>
<td>N = 417 Normal adults</td>
<td>TAS – 26</td>
<td>TAS Scores, both total and subfactors were significantly greater in the higher age groups in comparison to lower age groups. There was an inverse relationship with education. On gender there were no significant difference in total TAS scores, but women scored higher on factor 1.</td>
</tr>
<tr>
<td>Study</td>
<td>Measure</td>
<td>Age, Gender,</td>
<td>Findings</td>
</tr>
<tr>
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</tr>
<tr>
<td>Salminen, Saarijarvi, Aarela, Toikka, Kauhanen (1999)</td>
<td>TAS - 20</td>
<td>Age, gender, education socioeconomic status.</td>
<td>Multivariate analysis showed that alexithymia was associated with male gender, advanced age, low education level and low socioeconomic status. Men scored higher on factors 2 and 3 while there were no gender differences on factors 1.</td>
</tr>
<tr>
<td>Cox, Kuch, Parker, Shuylman, Romdn (1994) N=55</td>
<td>TAS - 20</td>
<td>Age, Gender.</td>
<td>Alexithymia was unrelated to age and gender.</td>
</tr>
</tbody>
</table>

Survivors of motor vehicle accident suffering from somatoform pain disorders.

General Population
There have been earlier studies wherein social class, status (Mendelssan, 1982, Paulson, 1985), and other sociodemographic variables (Parker, Taylor and Bagby, 1989) have not correlated significantly with alexithymia.

The results are far from conclusive.

ALEXITHYMIA AND SOMATOFORM DISORDERS

Lesser, Ford and Friedman (1979) had found alexithymia to be present equally in patients of somatizing and nonsomatizing psychotherapy. However, Shipko (1982) found alexithymia to be significantly more prevalent in somatizers than in healthy subjects with classical psychosomatic illness in the absence of Somatization.

Research has come a long way from alexithymia being viewed as specific to psychosomatic illness, to it being studied in a range of psychiatric disorders especially somatization. Some recent works are tabulated in Table - II

On the whole, the research indicates the independency of the construct of alexithymia and somatization; yet proving the significance of psychological attribution of somatic symptoms in somatizers, thus indicating a relationship between them. Somatic symptoms are significant as evident by the fact that the physicians are most commonly and chronically confronted by patients with these complaints, and an understanding of the alexithymic basis to these symptoms would go a long way in providing adequate diagnosis and good therapeutic intervention.
Multivariate analysis of variance, logistic regression and linear regression were used. Alexithymia and dissociation both ward off overwhelming affective states but they are fundamentally different in the sense that dissociation involves a change of one’s sense of self, whereas alexithymia reflects a cognitive state of externally oriented thinking with an inability to identify and report discrete emotions. 

Alexithymia is strongly associated with somatoform disorders. Should be made part of its diagnostic criteria to avoid cases turned false negatives.

Correlation analysis followed by MANOVA and logistic regression revealed significant relationship between dissociation and alexithymia, and the degree of pathology in former is determined by the degree of alexithymic characteristics.

**TABLE II**

**SUMMARY OF STUDIES ON RELATIONSHIP BETWEEN ALEXITHYMIA AND SOMATISATION**

<table>
<thead>
<tr>
<th>Study / Sample</th>
<th>Diagnostic Criteria</th>
<th>Findings/ Conclusion</th>
</tr>
</thead>
</table>
| Porcelli, De Carne, and Fava (2000) N = 190 | i) DSM IV  
ii) Diagnostic Criteria for Psychosomatic Research. | Alexithymia is strongly associated with somatoform disorders. Should be made part of its diagnostic criteria to avoid cases turned false negatives. |
| Functional gastrointestinal disorders | | |
| Grabe, Rainermann, Spitzer, Gansieke, and Freyberger (2000) N1 = 173  
Somatoform Patient N2 = 38 Nonclinical Subjects | i) TAS – 20  
ii) Dissociative Experience scale  
iii) Symptom Checklist (SCL – 90- R) | Correlation analysis followed by MANOVA and logistic regression revealed significant relationship between dissociation and alexithymia, and the degree of pathology in former is determined by the degree of alexithymic characteristics. |
ii) Dissociative Experience scale. | Multivariate analysis of variance, logistic regression and linear regression were used. Alexithymia and dissociation both ward off overwhelming affective states but they are fundamentally different in the sense that dissociation involves a change of one’s sense of self, whereas alexithymia reflects a cognitive state of externally oriented thinking with an inability to identify and report discrete emotions. |
Multiple stepwise regression analysis was used to assess whether alexithymia is associated with an enhanced sensitivity to both internal (somatic) unpleasant sensations and externally induced pain, suggesting a potential general hypersensitivity to unpleasant stimuli in individuals scoring high on alexithymia.

<table>
<thead>
<tr>
<th>Study</th>
<th>Methodology</th>
<th>Findings</th>
</tr>
</thead>
</table>
| Nyklicek and Vingerhoets (2000) \ N = 41 Healthy adults | i) TAS-20  
   ii) Laboratory controlled exposure  
   to painful electric stimulation. | Alexithymia is associated with an enhanced sensitivity to both internal (somatic) unpleasant sensations and externally induced pain, suggesting a potential general hypersensitivity to unpleasant stimuli in individuals scoring high on alexithymia. |
   i) Theoretical understanding  
   ii) Empirical investigations of emotion regulation.  
   iii) and Neural correlates. | Alexithymia is a heuristically useful construct for exploring the role of personality and emotions in the pathogenesis of certain somatic illnesses and diseases. Alexithymia reflects deficits in the cognitive processing and regulation of emotions. It is associated with maladaptive styles of emotion regulation, low emotional intelligence; a bi-directional interhemispheric transfer deficit, and reduced REM density. |
| Gundel, Ceballos – Baumann and Von-Rad (2000) 158 references review. | Review of studies. | Alexithymia is found in patients with various somatic disorders. Research indicates the need for conclusive evidence (because strong indications are present concerning a) possible pathways linking emotions to physical illness  
   b) neurobiological basis of emotional information processing. |
Scores on alexithymia correlated significantly with scores on the whole group of 12 immature defenses, and with scores on such individual immature defense mechanisms as autistic fantasy somatization, projection and displacement.

The study sample was more alexithymic than the other groups and had a culturally influenced locus of control showed a high prevalence of somatoform and other forms of Psychatric disorders.

Subjects high on alexithymia tended to endorse a psychological attribution for somatic complaints somatosensory amplification, anxiety and inability to express and report specific feelings predicted psychological attribution. The data support the role of alexithymia in somatization.

Alexthymia appears to be a thoretically important and clinically appealing concepts. But so far the empirical evidence that alexithymia predisposess to the development or persistence of medically unexplained physical symptoms is imperfect. This is mainly because of the cross sectional design of most studies and due to methodological shortcomings such as lack of allowance for possible confounding factors.

<table>
<thead>
<tr>
<th>Source</th>
<th>Studies/Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bogutyn, Kokoszka, Palcyzynski and Jolas</td>
<td>N = 387 University Students</td>
</tr>
<tr>
<td>Okasha Ismail, Khalil El Fiki, Soliman, Okasha</td>
<td>N1 = 100 Patients of chronic non-organic headache N2 = 50 Patients of organic headache N3 = 50 Normals.</td>
</tr>
<tr>
<td>Wise and Mann (1995) N = 100; Psychatric Patients</td>
<td>i) TAS ii) Psychiatric evaluation</td>
</tr>
<tr>
<td>Kooiman (1998) Review of 77 studies</td>
<td>Review of 77 studies</td>
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</tbody>
</table>

Kooiman, Kokoszka, Palcyzynski and Jolas (1999) N = 387 University Students

Kooiman (1998) Review of 77 studies

i) TAS 20
ii) Defense Mechanisms Questionnaire

Scores on alexithymia correlated significantly with scores on the whole group of 12 immature defenses, and with scores on such individual immature defense mechanisms as autistic fantasy somatization, projection and displacement.

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Somatoform disorders constitute the largest diagnostic group in daily medical practice with the core issue being the communication problem. Somatoform disorder have a multifactorial origin, consisting of minimal physiological changes, the perception of bodily sensations and their interpretation as symptoms. The ensuing emotional and behavioural consequences in interaction with significant others and the physically translates the symptoms into indicators of certain diseases. The communication of the distress and its type thus becomes significant especially for treatment.

One third of frequent attenders in health center were somatizers. Hypochondriacal beliefs and psychiatric comorbidity were connected with somatisation. Alexithymia was significantly high in them. A comprehensive approach to treatment, keeping in view the patients beliefs and expressions is recommended.

Alexithymia showed no association with somatic complaints when trait anxiety and depression were controlled. Alexithymia correlated negatively with positive affect and positively with negative affect. The former association was much more robust, whereas the latter association found mainly on subjective trait measures of negative affect.

<table>
<thead>
<tr>
<th>Review of Explanatory model</th>
<th>Langewitz, Kiss and Schachinger (1998)</th>
<th>Somatoform disorders constitute the largest diagnostic group in daily medical practice with the core issue being the communication problem. Somatoform disorder have a multifactorial origin, consisting of minimal physiological changes, the perception of bodily sensations and their interpretation as symptoms. The ensuing emotional and behavioural consequences in interaction with significant others and the physically translates the symptoms into indicators of certain diseases. The communication of the distress and its type thus becomes significant especially for treatment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) TAS – 20</td>
<td>Jyvasjarvi, Joukamaa, Vaisanen, Larivaara, et al (2001) N'=112</td>
<td>One third of frequent attenders in health center were somatizers. Hypochondriacal beliefs and psychiatric comorbidity were connected with somatisation. Alexithymia was significantly high in them. A comprehensive approach to treatment, keeping in view the patients beliefs and expressions is recommended.</td>
</tr>
<tr>
<td>ii) Symptom Checklist – 36</td>
<td>Frequent attenders in a health center N2 = 105 Age and gender matched controls.</td>
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<tr>
<td>iii) Whitley Index</td>
<td>Lundh, Simonsson Sarnecki (2001) N = 137 Community sample</td>
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<tr>
<td></td>
<td>TAS – 20</td>
<td>Alexithymia showed no association with somatic complaints when trait anxiety and depression were controlled. Alexithymia correlated negatively with positive affect and positively with negative affect. The former association was much more robust, whereas the latter association found mainly on subjective trait measures of negative affect.</td>
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Patients with emotional problems presenting only somatic symptoms have equivalent clinical outcomes to patients presenting psychological problems directly, but are more likely to attribute emotional improvement to change in their physical health.

Alexithymic subject demonstrated a high and stable level of autonomic reactivity at baseline and under stress, a greater neuroticism, and a tendency to internalize and emotional responses. The basic neurophysiologic condition of the alexithymic alarm*, which is expressed somatically (due to high anxiety and high level of sympathetic reactivity) Since the alexithymic individuals have a poor ability to relax with respect to baseline and stress events, high levels of neurovegetative activation are maintained (constant somatization) and are unchanged by variations in the environmental conditions.

Items from both the TAS – 20 and somatisation checklist were subjected to factor analysis, resulting in repeat factor loadings according to these two scales. These results were replicated and cross validated in the patients sample, supporting the independency between alexithymia and somatization.

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample Description</th>
<th>Tests Used</th>
<th>Results/Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cape (2001)</td>
<td>N = 152 Adult patients With GHQ scores in the symptomatic range.</td>
<td>i) GHQ</td>
<td>Patients with emotional problems presenting only somatic symptoms have equivalent clinical outcomes to patients presenting psychological problems directly, but are more likely to attribute emotional improvement to change in their physical health.</td>
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<tr>
<td></td>
<td></td>
<td>ii) Questionnaire of patients attributions for improvement.</td>
<td></td>
</tr>
<tr>
<td>Infrasca (1997)</td>
<td>N = 56 Psychiatric outpatient</td>
<td>i) TAS – 26</td>
<td>Alexithymic subject demonstrated a high and stable level of autonomic reactivity at baseline and under stress, a greater neuroticism, and a tendency to internalize and emotional responses. The basic neurophysiologic condition of the alexithymic alarm*, which is expressed somatically (due to high anxiety and high level of sympathetic reactivity). Since the alexithymic individuals have a poor ability to relax with respect to baseline and stress events, high levels of neurovegetative activation are maintained (constant somatization) and are unchanged by variations in the environmental conditions.</td>
</tr>
<tr>
<td></td>
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<td>ii) MMPI</td>
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<td></td>
<td></td>
<td>iii) Electrodermic reactivity (EDR)</td>
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</tr>
<tr>
<td>Bach, Bach, and Zwaan (196)</td>
<td>a) N1 = 379 Normal adults</td>
<td>i) TAS – 20</td>
<td>Items from both the TAS – 20 and somatisation checklist were subjected to factor analysis, resulting in repeat factor loadings according to these two scales. These results were replicated and cross validated in the patients sample, supporting the independency between alexithymia and somatization.</td>
</tr>
<tr>
<td></td>
<td>b) N2 = 125 Psychosomatic inpatients</td>
<td>ii) Screening list for somatization symptoms by DSM – III- A.</td>
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</tbody>
</table>
Patient with a somatoform disorder scored significantly higher on the TAS-20 than the medically ill. As a result of stepwise multiple regression analysis, the SCL-90-R somatization scale emerged as a significant predictor of alexithymia in the somatizing patients while the SCL-90-R, Depression Scale and the severity of psychosocial impairment significantly predicted alexithymia in the medically ill. There was no significant difference between the two groups indicating probably alexithymia is a culturally or socially learnt phenomenon.

<table>
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<tr>
<th>Study</th>
<th>Population</th>
<th>Measures Used</th>
<th>Results</th>
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</thead>
<tbody>
<tr>
<td>Bach and Bach (1996)</td>
<td>N1 = 40 Samatoform patients, N2 = 29 Patients with chronic medical illness</td>
<td>i) TAS-20, ii) Symptom Checklist; SCL-90-R, iii) Whiteley Index, iv) Global rating of Psychosocial impairment</td>
<td>Patient with a somatoform disorder scored significantly higher on the TAS-20 than the medically ill. As a result of stepwise multiple regression analysis, the SCL-90-R somatization scale emerged as a significant predictor of alexithymia in the somatizing patients while the SCL-90-R, Depression Scale and the severity of psychosocial impairment significantly predicted alexithymia in the medically ill.</td>
</tr>
<tr>
<td>Geetha and Sekar (1995)</td>
<td>N1 = 30 Patient of functional somatic symptoms of &gt; one year duration, N2 = 30 Normal controls compared on age, family marital status</td>
<td>i) GHQ-12, ii) TAS</td>
<td>There was no significant difference between the two groups indicating probably alexithymia is a culturally or socially learnt phenomenon.</td>
</tr>
<tr>
<td>Bach and Bach (1995)</td>
<td>N = 30 Somatoform and anxiety disorder patients 2-year prospective study</td>
<td>i) SCID interviews, ii) DSM III-R, iii) TAS</td>
<td>Patients who met criteria for DSM-III-R undifferentiated somatoform disorder at follow up exhibited higher pretreatment alexithymia scores as a compared with patients who had never met criteria for a somatoform disorder. Stepwise logistic regression analysis, high alexithymia scores emerged as significant predictor of persistent somatization, independent of other measures of psychopathology, sociodemographic variables and measures of illness severity.</td>
</tr>
<tr>
<td>Test Battery</td>
<td>Patient Group</td>
<td>Notes</td>
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<tr>
<td>i) TAS – 26</td>
<td>Somatizing group N2 = 38</td>
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<td>ii) Basic personality Inventory</td>
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<td></td>
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<tr>
<td>iii) MMPI</td>
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<td></td>
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<tr>
<td>iv) Archetypal 9 test (8AT9)</td>
<td>Psychiatric patients N3 = 34</td>
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<tr>
<td></td>
<td>Normals attending dental clinic</td>
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</table>

Alexithymia cannot be predicted by patient group (i.e. somatizing, psychiatric normal comparisons) nor by the degree of organicity in patients with somatoform disorder. Alexithymia can be significantly predicted by the measure of the tendency to experience, signs and symptoms. Somatization is not necessarily a hallmark sign of alexithymia and incidence of alexithymia may increase with increasing age.

<table>
<thead>
<tr>
<th>Test Battery</th>
<th>Patient Group</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) DSM – III-R</td>
<td>Patients with functional somatic syndromes, N = 45</td>
<td></td>
</tr>
<tr>
<td>iii) TAS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>iv) SCL – 90-R</td>
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</tr>
</tbody>
</table>

The alexithymic patient presented more psychological turmoil and overall psychopathology on SCL – 90-R and higher number of DSM – III-R diagnosis, and the course of illness. Clinical features assessment in addition of psychometric measures is recommended to validate the potential role of alexithymia in somatic symptom formation.

Cohen, Auld, Brooker, (1994) N1 = 32
Somatizing group N2 = 38
Psychiatric patients N3 = 34
Normals attending dental clinic

Bach, Bach, Bohmer and Nutzinger (1994)
N=45
Patients with functional somatic syndromes.
Amplification is a perceptual element in potentiating somatization, whereas alexithymia contributes to the cognitive aspects of the process. Neuroticism plays role of

<table>
<thead>
<tr>
<th>i) TAS</th>
<th>ii) TAS-20</th>
<th>iii) Anxiety sensitivity index</th>
<th>iv) Mc Gill pain questionnaire</th>
</tr>
</thead>
</table>

Wise and Mann (1994)  
N = 101 Psychiatry outpatient

Alexithymic patients scored significantly higher on several MMPI scales that collectively measure a diverse and extensive range of somatic symptoms and bodily concerns. Alexithymic patients were found to use significantly more words to describe their pain, suggesting they have a more diffused style of communicating their pain experience.

Taylor Parker, Bagby, and Acklin (1992)  
N = 118  
General psychiatric out Patients

Alexithymic and nonalixithymic patients did not differ on self report of current pain severity and frequency. Alexithymic patients were found to use significantly more words to describe their pain, suggesting they have a more diffused style of communicating their pain experience.

Cox, Kuch, Parker, Shuylman, Roman (1994)  
N = 55  
Chromatic Pain Post motor vehicle accident

Alexithymic patients scored significantly higher on several MMPI scales that collectively measure a diverse and extensive range of somatic symptoms and bodily concerns. Alexithymic patient had significantly less ego strength, high dependency with more likelihood of engaging in impulsive and acting out behaviour. Thus, alexithymic individuals are prone to both unictional somatic symptoms and functional symptoms of emotional turmoil because they are not well equipped psychologically.

<table>
<thead>
<tr>
<th>i) DSM – III-R</th>
<th>ii) TAS-20</th>
<th>iii) Anxiety sensitivity index</th>
<th>iv) Mc Gill pain questionnaire</th>
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Amplification is a perceptual element in potentiating somatization, whereas alexithymia contributes to the cognitive aspects of the process. Neuroticism plays role of a mediating factors.

<table>
<thead>
<tr>
<th>i) TAS</th>
<th>ii) Samotosensory Amplification scale</th>
<th>iii) Health locus of control</th>
<th>iv) NEO –FFI (measure of five personality factors)</th>
</tr>
</thead>
</table>
ASI scores significantly positively correlated with scores on total TAS score and with factors 1 and 2. Results persisted after accounting for influences of trait anxiety and panic history. Scores an alexithymia affected by frequency and degree of fear related to anxiety symptoms.

ii) Anxiety Sensitivity index. (ASI) |
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</thead>
<tbody>
<tr>
<td>N=238   Undergraduate students</td>
<td>ASI scores significantly positively correlated with scores on total TAS score and with factors 1 and 2. Results persisted after accounting for influences of trait anxiety and panic history. Scores an alexithymia affected by frequency and degree of fear related to anxiety symptoms.</td>
</tr>
</tbody>
</table>
ALEXITHYMIA AND SOCIAL SUPPORT

In a population based study, Kauhanen et al (1992) found strong social determinants of alexithymia. Men tended to be unmarried and had low levels of social contacts and few acquaintances. Education, income and occupational status were inversely related, and all these remained significant after adjustment for the compounding factors.

Fukunishi, Meada, Kubota, Tomino, and Rahe (1995) examined the relationship between alexithymia and psychosocial factors in 72 peritoneal dialysis patients, and compared them with 73 healthy volunteers. The alexithymia scores were significantly and positively correlated with anxiety, which may be due to the dialysis therapy. After 3 years of follow up consultations, patients were still showing higher scores on alexithymia and anxiety, however alexithymia scores were not correlated with anxiety scores but rather were significantly associated with poor social support. Thus, availability of social support is concluded to be related to alexithymic characteristics.

Quint, Hasenburg, Patsalis, and Franke (1998) compared individuals with lower back pain with a group of asymptomatic controls. On SCL 90-R, significant differences were observed between the patients and controls on the scales for somatisation, as also on the global marker of "positive symptom total". There was reported insecurity during social contacts, more so in women than in men. There were no age related differences.

Gutzmann (2000) in his review of 22 studies concluded that depressive symptoms which are one of the most frequent psychiatric presentations in late life, are due to increased tendency to alexithymia and somatization. Somatic diseases, functional disability and comorbid physical illnesses may be present but the relevant risk factors are social isolation and decreased social participation in daily life.
Wood and Wessely (1999) compared 101 patients of Chronic Fatigue Syndrome with 45 rheumatoid arthritis patients on measures of personality traits and social attitudes. Alexithymia was significantly greater in rheumatoid arthritis patient group, while social adjustment based on subjective assessment of overall restriction in activities and relationship difficulties, was substantially poorer in the chronic fatigue syndrome.

Berenbaum, Davis and McGrew (1998) examined the relationship between alexithymia and the interpretation of hostility-provoking situations on 62 college students, using TAS - 20 and the Test for the Interpretation of Provoking Stimulus (TIPS). Higher levels of alexithymia were associated with greater degrees of accuracy in interpreting the innocence of interpersonal information. The authors concluded that alexithymia is not associated with a general affect recognition deficit. But that social factors play a central role in alexithymia.

Butow, Hiller, Price, Thackway, Kricker and Tannant (2000) reviewed the empirical evidence for a relationship between psychosocial factors and breast cancer development. They reported seven studies showing anger repression or alexithymia as predictors of breast cancer. However, there was no evidence of the impact of social support on the illness development. For conclusive results, authors recommended future research with good theoretical grounding and greater methodological rigour.

Kulhara and Chopra (1996) studied social support in the Indian setting on 197 neurotic patients. They demonstrated a negative correlation between social support and life stresses; and social support and dysfunction. This indicates that the lack of supportive relationships makes the individual even more vulnerable to dysfunction. Forming Bowlby's work as the basis, the authors contend that social support bolsters the capacity to withstand and overcome frustration. In this context, in India, social support primarily comes from the family, mainly the parents or the spouse or children. Family social support has components of both emotional and physical support. Social network and other social bonds also are rich
sources of social support but these are more functional rather than structural aspect of social support.

Geetha and Sekar (1995) found that women with functional somatic symptoms of more than one year duration, when compared with normal controls had more fatalism and habit of praying to God, while controls used talking to family members and seeking their emotional support and help as mechanisms for coping with stress. It would be worth exploration whether this is by choice or due to compulsion because the social support is not available. Authors have recommended an effort to increase social support as one of the components of treatment.

Research has repeatedly found on association between alexithymia and low socio economic status, lower income and lower occupational status (Kauhanen et al. 1993, Lane et al. 1996, Salminen et al. 1999, Lane et al. 1998, Kaxkonen et al. 2001). An extrapolation from this could be that this is the group in the social milieu which has comparatively lower social support. Thus, an area of exploration based on this could be whether or not alexithymia has developed due to poor social support.

Stress and coping model of adjustment was studied on multiple sclerosis (MS) by Pakenham (1999). A total of 122 MS patients were interviewed and they completed self administered scales at time one and twelve months later (n=96). Predictors included stressful life events, social support appraisal and coping. Results from hierarchical regression analysis indicated that after controlling for the effect of time one adjustment, better time two adjustment was related to less reliance on emotion-focused coping. There was limited support for the stress buffering effects of coping and social support.

Lumley et al. (1996) presented three studies examining whether alexithymia is associated with less perceived and network social support, whether such relationships are accounted for by reduced social skills associated with alexithymia, and whether limited social support links alexithymia to health problems. The relationships between alexithymia, social
variables, and physical health and depression were examined in both healthy young adults and patients. Alexithymia (especially deficits in identifying and communicating feelings) was related to less perceived support, fewer close relationships, and less social skills; the social skills deficit accounted fully for the association between alexithymia and a smaller social network. Additionally, alexithymia was related to both somatic complaints and depression, but social support generally was not. It was concluded that alexithymia is associated with reduced perceived and network social support, and that these associations are likely to be due to alexithymia-related deficiencies in social skills but that reduced social support does not account for the relationship between alexithymia and health problems.

Perceived social support from friends (PSS-Fr) and perceived social support from family (PSS-Fa) were both inversely related to symptoms of distress and psychopathology but the relationship was stronger for PSS-Fa. PSS-Fr was more closely related to social competence. PSS-Fa was unaffected by either positive or negative mood states (self-statements), but the reporting of PSS-Fr was lowered by negative mood states. High PSS-Fr subjects were significantly lower in trait anxiety and talked about themselves more to friends and siblings than those subjects who were low on PSS-Fr. Low PSS-Fa subjects showed marked verbal inhibition with siblings. (Procidano and Heller, 1983).

The relationship between alexithymia and coping with stress among 179 Japanese healthy volunteers was examined by Fukunishi and Rahe (1995). Two correlational analysis indicated that persons who scored as alexithymic were more likely to indicate lower social support and poorer responses to stress. Multiple regression analysis also indicated that these lowered coping responses were fully explained by alexithymia scores. These results suggest that alexithymia, as a personality trait, may help to explain these individuals' low social support and poor responses to stress.
Henderson et al. (1978) observed that neurotic patients have a deficient primary group in terms of size and affective quality. Sethi et al. (1981) found that neurotic patients do not have deficient primary group. Rather they appear to be less active in making contacts with members outside the household. Further work in a community based project showed that whereas the primary group of the rural respondents was richer in contacts, the average urban member spent more time in interaction, and thus, utilized the available support better (Sharma et al. 1984).

Alexithymic characteristics were examined by Fukunishi et al. (1999) in a sample of 81 HIV-positive patients. The severity of alexithymia was significantly higher in HIV patients than healthy controls, suggesting the presence of secondary alexithymia. Scores on two alexithymic characteristics i.e. affect awareness and operational thinking, significantly correlated with ratings of poor utilization and perception of social support increased as the severity of HIV infection increased.

Systematic random-sampling procedures were used by Lu (1997) to gather a sample of 191 community residents and surveyed them regarding (a) Amount of social support given and received; (b) Perceived reciprocity of support in relationships with family members, friends, and colleagues; (c) Negative affect; and d) Psychological symptoms. Extraversion and social desirability were also measured. Both receiving and giving support were found to be related to negative affect after controlling for the effects of extraversion and the negative impact of support, on psychological symptoms. Reciprocity of support within the family domain was related to well-being. Individual differences in support exchanges were noted, and women were found to be receiving more support than men.

Measures of coping, life events, and anxiety and depression were administered to junior-high and senior-high school samples on two occasions, separated by a five month interval. Factor analyses supported the creation of coping subscales of problem solving.
cognitive coping, social entertainment, physical exercise, and peer support. A one-item index of parental support was also included in the analyses. The coping subscales showed moderate temporal stability. Prospective regression analyses of the early adolescent data revealed that problem-solving coping was negatively related to depression, and that social entertainment coping was negatively related to anxiety. The prospective effects for the middle adolescents' coping were nonsignificant. (Glyshaw, Cohen and Towbes, 1989).

ALEXITHYMIA AND LIFE EVENTS

Saxena, Mohan, Dube, Chawla, and Sundaram (1983) investigated the frequency and life events experienced by 166 psychiatric patients and 166 normal controls using semi-structured interview and an event checklist. Results showed that the patients experienced a significantly higher number of events compared to normal controls in the previous one year. Desirable as well as undesirable events in all areas of life functioning were experienced more frequently by patients.

Sharma and Ram (1987) in their study of life events in anxiety neurosis concluded that the relationship between stressful life events and onset of psychiatric illness is not a simple one but has a number of other factors which modify the effect of life events on the individual. Life time stress scores, recent stress scores, socio economic and economic status, and social support with its buffering effect were found to account for 50% of the variability magnitude in the of the onset of illness. Most important were life time stress scores and family jointness.

Andrews et al. (1978) studied life events stress, social support, coping style and risk of psychological impairment in neurotic patients. Persons with low events, good support and good coping had an illness risk of 12.8%. Persons with high events, poor coping and poor support had an illness risk of 43.3%.
Coyne and Downey (1991) demonstrated some specificity in the relationship between classes of events and combinations of depression and anxiety. Loss events, much more frequently preceded the onset of pure depression. While danger events preceded anxiety. Mixed depression and anxiety was preceded by events that involved both threat and loss.

Rao (1997) reports in her review of Indian work that the life-time occurrence of life events comparable in normal subjects and neurotic patients, most of them being normative in nature. Patients, however, reported multiple events and a peaking of events prior to onset of symptoms, with formal consultation taking place approximately six months later. Also, more 'loss' events were reported by the patients and these were perceived as being negative and beyond one's control. Rao concluded that events occurrence in itself is not stressful but, how it is perceived and appraised is of significance.

Geetha and Sekar (1995) compared 30 women presenting with functional somatic symptoms of more than one-year duration with 30 normal controls on alexithymia and stressful life events. There was no difference between the groups in alexithymia but the patient group had higher number of total life events, especially in family, social and financial areas,

Gautam and Kamal (1990) studied prospectively 100 consecutive neurotic patients and 100 matched normal subjects by administering Presumptive Stressful Life Event Scale and measures for depression and anxiety. It was found that number of stressful life events was higher in neurotic patients and their impact was also perceived significantly higher in them. Significantly higher depression and anxiety scores had positive correlation to the number and impact of stressful life event in neurotic patients.
Butow, Hiller et al. (2000) reviewed seven studies to explore the relationship between psychosocial factors and breast cancer development. They concluded that alexithymia and several life events have a strong predictive value for the said illness. Authors suggested future research with adequate theoretical and methodological rigour.

Spurrell and Mcfarlane (1995) studied the relationship between life events and psychological symptoms in 48 patients presenting to a general community psychiatric clinic over a four months period. They completed a Brief Life Events Scale, the Impact of Event Scale (IES) and GHQ – 28. Statistical methods were employed to model the interviewing role of IES scores between number of life events and subsequent psychiatric symptomatology. It was found that IES scores accounted for the reporting of psychiatric symptoms following adversity. The dimension of cognitive intension was found to be mediating this effect, with cognitive avoidance occupying a subsidiary, reactive role. There was also evidence of specific relationship between intrusion and anxiety and somatic subscales of GHQ, and between avoidance and depression.

The research of Hoimes, Rahe, and their associates disclosing that life events and stress are related to the onset of physical illness was extended by Vinokur and Selzer (1975) by using a modified version of life events checklist. It was shown that an accumulation of life events was correlated with self-reported tension and distress and with emotional disturbances. It was shown that these relationships did not hold for desirable life events but primarily for undesirable events. Thus the authors suggest that the quality of the events in terms of their desirability is the crucial determinant of stress and the above-mentioned relationship, rather than simply the life change produced by the events.

Wilkinson (1991) tried, to construct logistic models of emotional distress (defined as a GHQ -30 score of 6 or greater) in a community sample of 226 men and 225 women. The independent variables included were: sociodemographic characteristics, physical health
status, social problems and undesirable life events. Univariate comparisons showed that in both sexes, undesirable life events and social problems were associated with emotional distress as the presence of physical symptoms; and widowed, separated or divorced status also showed such an association. Separate logistic regression models for men and women confirmed the importance of undesirable life events and social problems as predictors for emotional distress. In women there was also a significant interaction effect between the two variables on emotional distress. Sociodemographic characteristics and physical health status did not exert a statistically significant effect in these models.

Holahan and Moos (1986) conducted a longitudinal analysis to assess the causal inferences about stress resistance factors. The study involved a survey of 245 men and 243 women in randomly selected families. Findings demonstrated that for women, the stress resistance index predicted psychosomatic complaints experienced on post assessment a year after the inception in the study.

Two studies were conducted by Miller and Lefcourt (1983) to explore the role of social intimacy in predicting the individuals response to stress. Individuals lacking a current intimacy were found to be prone to higher levels of emotional disturbance especially when many previous negative or few positive life change events had occurred.

Marcenaro et al (1999) examined the role of psychosocial factor in the etiology of rheumatoid arthritis. Macro and micro stressful life events were examined in a sample of 15 patients. In 86% of the cases stressful life events were present. 60% of the patients showed a correlation between flare-ups of the disease and appearance of micro events. 40% of the cases were detected to have alexithymia.

In a 18 year period, 93 patients with factitious disorder were evaluated by Kapfhammer et al (1998). 25% of the patients suffered from somatic illness. They were
reported to have frequent traumatizing events in the early biography, like, foster home, disturbing family disharmony, physical and sexual abuse, early losses, and serious illnesses. In the current situations also various psychosocial stressors could be identified.

Tejek, Lumley, et al. (2000) compared 25 patients with psychogenic non-epileptic seizures with 33 control subjects with epilepsy on stressful life events and other risk factors for somatoform disorders. Compared with control subjects, patients reported significantly more prevalent stressful life events and more somatic symptoms and bodily awareness. Life stress was strongly related to the patients symptomatology. However, alexithymia was equally present in both the groups. Authors concluded that the nonepileptic seizures are part of a larger pattern of somatic symptom responses to a wide range of negative life events.

ALEXITHYMIA AND COPING

Vollrath, Torgersen and Alnaes (1998) made assessments with 154 former psychiatric outpatients six and seven years after their initial contact with an outpatient clinic. Dispositional coping mediated the relation between Neuroticism and change in four of the nine clinical scales including somatoform disorders. The coping strategies involved were disengagement, venting of emotions, and a lack of problem focussed coping.

Parker, Taylor and Bagby (1998) challenged the earlier literature where alexithymia was reported to be reflecting a deficit in the cognitive processing of emotions or a defensive coping style. They empirically tested on two samples i.e 287 nonclinical adults and 83 undergraduate students of alexithymic and nonalexithymic subgroups using TAS - 20, Defence Style Questionnaire and Coping Inventory for stressful situations. Authors found alexithymia to be most strongly associated with an immature defense style, weakly associated with the neurotic defense style and negatively associated with the mature defense style. These differences were significantly higher for the alexithymic students. Also
Alexithymic students scored significantly higher on emotion-oriented coping scale and the distraction component of the avoidance-oriented coping and significantly lower on the task-oriented coping scale.

Fukunishi and Rahe (1995) examined 179 healthy volunteers on alexithymia and coping with stress. Two correlational analyses indicated that persons scored as alexithymic made poorer responses to stress. Multiple regression analysis also indicated that these were fully explained by alexithymia scores.

In the Indian setting, Geetha and Sekar (1995) compared 30 women presenting with functional Somatic symptoms of more than one-year duration, with 30 normal controls on measures of alexithymia and coping styles. There was no difference between the two groups in alexithymia. The patient group had more fatalism, praying to God, whereas control group had coping skills like talking to family members, seeking help and emotional support from family members.

Newton and Contrada (1994) classified 86 healthy female subjects as low anxious, high anxious or repressors and examined them on alexithymia and stressful laboratory task. Alexithymia scores of high anxious subjects were significantly greater than those of repressors. High alexithymic individuals exhibited an emotional response pattern characteristics of high anxious subjects while low alexithymics pattern was characteristic of repressors. Thus the authors concluded, that alexithymia and repressive coping are distinct, and enjoy an inverse relationship.

Vingerhoets, VanHeck, Grim and Bermond (1995) conducted series of three studies to report strong negative correlations between alexithymia and three coping mechanisms: (i) expression of emotions (ii) daydreams and fantasies (iii) planned and rational actions. A
positive association was found between alexithymia and distancing and other passive forms of coping.

Cape (2001) examined 106 patients presenting with somatic symptoms to general practitioners to find that these patients unlike the emotionally disturbed patients attributed improvement to change in their physical health while the latter group attributed the improvement to the physicians listening and counseling. Equally commonly used attributions by the two groups for improvement were passage of time, change in life circumstances, support of family and friends, medication, and “working through problems myself”.

The relationship between alexithymia and coping with stress among 179 Japanese healthy volunteers was examined by Fukunishi and Rahe (1995). Two correlation analyses indicated that persons scored as alexithymic were more likely to indicate lower social support and poorer responses to stress. Multiple regression analysis also indicated that these lowered coping responses were fully explained by alexithymia scores. These results suggest that alexithymia, as a personality trait may help to explain these individuals’ low social support and poor responses to stress.

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than healthy controls, suggesting the presence of secondary alexithymia. Scores on two alexithymic characteristics, i.e. affect awareness and operational thinking, significantly correlated with ratings of poor utilization and perception of social support as the severity of HIV infection increased. Systematic random-sampling procedures were used by Lu (1997) to gather a sample of 191 community residents and surveyed them regarding (a) amount of social support given and received; (b) perceived reciprocity of support in relationship with family members, friends, and colleagues; (c) negative affect; and (d) psychological symptoms. Extraversion and social desirability were also measured. Both receiving and giving support were related to negative affect after controlling for the effects of extraversion and social desirability. These two personality factors also substantially masked the negative impact of support on psychological symptoms. Reciprocity of support within the family domain was related to well being. Individual differences in support exchanges were noted, and women received more support than men.

Measures of coping, life events, and anxiety and depression were administered to junior high and senior high school samples on two occasions, separated by a five month interval. Factor analyses supported the creation of coping subscales of problem solving, cognitive coping, social entertainment, physical exercise, and peer support. A one item index of parental support was also included in the analyses. The coping subscales showed moderate temporal stability. Prospective regression analyses of the early adolescent data revealed that problem-solving coping was negatively related to depression, and that social entertainment coping was negatively related to anxiety. The prospective effects for the middle adolescents' coping were non-significant (Glyshaw, Cohen and Towbes, 1989).

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ALEXITHYMIA AND FAMILY FUNCTIONING

Fukunishi and Paris (2001) examined the intergenerational association of alexithymic characteristics of mothers and their children in a sample of 232 pairs of college students and their mothers. Scores on the Toronto Alexithymia Scale, Parental Bonding Inventory, and the Family Environment Scale of college students were significantly correlated with their mothers' memories of when they were also 20 years old. College students' scores were significantly correlated with their mothers' scores on each questionnaire. The student-mother pairs were further divided into two family types, nuclear and extended families. Correlations were higher for scores of the nuclear family than for those of the extended family.

Yelsma, Hovestadt, Anderson and Wilson (2001) studied the individual's perceived level of global expressive atmosphere within his or her family-of-origin. New 22 item Family of Origin Expressive Atmosphere Scale, and the 20 - item Toronto Alexithymia Scale were administered to 295 students. Students self reported expressive atmosphere in their family-of-origin scores were significantly correlated with the total scores of alexithymia and each of the three factors: impaired ability to identify feelings, impaired ability to describe feelings, and externally oriented thinking processes. No significant gender differences were found.

Twenty patients with Idiopathic Spasmodic Torticollis and twenty healthy controls matched for age and sex were administered the Toronto Alexithymia Scale (TAS -20) and
the Adult Attachment Interview (AAI). Attachment was classified using the Attachment Interview Q-sort. Patients scored significantly higher on the measure of alexithymia than subjects in the comparison group. Dismissing attachment representation was significantly more frequent in patients than in the control group. Across the total sample, externally oriented thinking correlated positively with dismissing attachment and both externally oriented thinking and difficulty communicating feelings correlated inversely with secure attachment. The authors concluded that alexithymia in adults is significantly interrelated with the mental representation of attachment. (Scheidt, Waller, Schnock, Becker-Stoll et al., 1999).

Ninety two university students were surveyed by Kench and Irwin (2000) to determine if features of the childhood family environment could predict the level of alexithymic tendencies. The 20-item Toronto Alexithymia Scale was used to measure alexithymic tendencies. Also surveyed retrospectively were dimensions of the childhood family environment such as the family's level of cohesion, expressiveness, conflict, disengagement, sociability, enmeshment, organization and parenting style. Multiple-regression analysis showed that the set of family-environment variables did predict alexithymia scores. The sole family variable independently predictive of global alexithymic tendencies was expressiveness, although other family variables were predictive of individual components of alexithymia. The findings were consistent with the view that the childhood family environment has a bearing on the development of alexithymic tendencies, although other explanations by no means are excluded.

Tordcurs and Janne (2000) assessed alexithymia and family's cohesion and adaptability in three groups of patients based on their diagnosis, namely depression (n = 16), alcoholism (n=16) and control group (n=16). The results showed that the family's cohesion is lower for the alexithymics than the non-alexithymics (t = 2.961; p ≤ 0.008).
In another study 49 prospective clients from a Midwestern urban community who sought counseling at a university training clinic, completed the Self - expressiveness in the Family Questionnaire and the 20-item Toronto Alexithymia Scale. As predicted, the positive self expressiveness scores were significantly negatively correlated with scores on alexithymia and the negative self expressiveness scores were significantly positively correlated with alexithymia. The authors took these results as a support to the premise that mental health clients self-reported lack of positive expressiveness and abundance of negative expressiveness within their family context may be attributes associated with their tendency to be alexithymic. (Yelsma, Hovestadt, Nilsson and Paul, 1998).

In an attempt to determine the association between perceived parental attitude, defense mechanisms and alexithymia, cross sectional data from 78 psychiatric outpatients was obtained using the Toronto Alexithymia Scale, the Defense Style Questionnaire and the Parental Bonding Instrument. Weak associations between perceived parental attitude and alexithymic features were found. Primitive and adaptive defenses were associated with alexithymic features in a clinically sensible way. The strongest association was between primitive defense mechanisms and alexithymic features. There was hardly any association between neurotic defense mechanisms and alexithymic features. The authors thus concluded that alexithymia is associated with a primitive defense style, whereas a relation to disturbances in early parent child relationship could not be confirmed. It was argued that possibly more severe traumatic experiences such as physical and sexual abuse, than merely a negatively perceived parental attitude were necessary to develop alexithymic features. (Kooiman, Spinhoven, Trijlsburg , and Rooijmans, 1998).

Lumley, Mader, Gramzow, and Papineau (1996) conducted a two part study to explore the familial and parental correlates of alexithymia. In part-I, 127 young adults were evaluated on TAS - 20, Scored Archetypal Test-9, and McMaster Family Assessment Device. In Part - 2, 80 of their mothers completed the TAS - 20 about themselves. In Part -
1, general family pathology was associated with alexithymia. Difficulty identifying feelings was related to dysfunctional family affective involvement, externally oriented thinking was related to deficient family behaviour control, and impaired imagination was related to inadequate family problem solving; independent of general family pathology and subjects positive and negative affect. In part - II, maternal alexithymic characteristics were correlated significantly with the offsprings, controlling for both respondents positive and negative affect. These findings implicate disturbed family functioning and maternal alexithymia in the development of alexithymic characteristics in children.

Fukunishi, Saito and Ozaki (1992) examined 35 hemodialysis patients and their family members. Patients had strong conflicts due to their hemodialysis therapy, the main fraction of conflict and expressiveness toward the family were significantly lower in patients with alexithymia. Significantly positive and negative correlations were observed between conflict and expressiveness and between expressiveness and degree of alexithymia, respectively.

Berenbaum and James (1994) examining the familial correlates of alexithymia found that young adults reported diminished family expressiveness (especially, limited positive communication) as related to their over affective identification and communication deficits.

Self-reported alexithymia (Toronto Alexithymia Scale), retrospective ratings of family dysfunction (Family structure Scale), and healthy family environment (Family Environment Scale) was examined by King et al., (2000) in clients (n=33) and non-clients (n=32). Clients recalled significantly more family dysfunction, and reported a trend toward higher alexithymia than non-clients. For the combined samples, alexithymia was positively associated with retrospective reports of family function, including parent-child role reversal, fear of separation, and parental enmeshment. More than simply the absence of dysfunction, memories of affirmatively healthy family environments, including cohesion, emotional expression, encouragement of independence were negatively correlated with alexithymia.
A study by Holahan and Moos (1986) involved a survey of 245 men and 248 women in randomly selected families. Findings demonstrated that feelings of self-confidence, an easy-going disposition, a disinclination to use avoidance was in individuals with negative psychological consequences of life stress. For women the stress – resistance index also predicted psychosomatic complaints experienced one year after initial testing.

Sharma and Ram (1987), conducted a study on 84 patients of anxiety neurosis selected according to a stringent selection criteria. Lifetime stress score correlated positively with Hamilton anxiety score, while family jointness, social support and socio-economic status correlated negatively with the Hamilton Anxiety Score. Five variables i.e. life time stress score, recent stress score, socio-economic support, economic status and social support, when considered, accounted for 50% of the variability in the magnitude of illness. Amongst these variables life time stress score and family jointness turned out to be the most important. These findings highlight the significance of experience of stresses over life time in the production of anxiety symptoms and also suggest that the joint family is a support system in our country and dilutes the effect of stressful life events on the individual.

ALEXITHYMIA AND VERBAL FLUENCY

Valdes, Jodar, Ojuel and Sureda (2001) studied 124 out patients attending a psychosomatic unit to explore the relationship between alexithymia and verbal intelligence using TAS and Weschler Adult Intelligence Scale. They found not only significantly lower scores in verbal intelligence in alexithymia but also found significantly lower score in nonverbal and general intelligence. Authors theorize the involvement of alexithymia with cerebral asymmetry and interhemispheric dysfunction.
The association of alexithymia with impaired verbal and nonverbal recognition of naming emotional stimuli have been consistently reported (Lane et al, 1996, Parker et al, 1993). Vingerhoets et al (1995) postulated that highly alexithymic subjects prefer a pragmatic and practical love style.

Berenbaum (1993) found highly alexithymic students to prefer negative valenced movies (i.e. those arousing fear, sadness, anger) as compared to positively valenced ones (i.e. those arousing happiness).

Lamberty and Holt (1995) studied alexithymia and specific domain of cognitive functions using neuropsychological battery of tests. Modest but consistent correlations were noted with measures of developmental verbal ability. These relationships were absent in other variables. Authors suggested that poorly developed verbal ability may relate to presence of primary alexithymia, irrespective of secondary etiological factors. The deficits may be in not just emotional-feelings vocabulary, but may include limitations in general verbal fluency.

Ten Houten, Hoppe, Bogen and Walter (1985) worked extensively to study alexithymia in cerebral commissurotomy patients to state the absence of a connection between the symbolic - affective perceptions of the right hemisphere and the verbal capabilities of the left hemisphere, thus limiting only the affective verbal expression.

Lesser and Lesser (1983) in their research concluded that the alexithymic individuals have language output that is essentially normal, but their expression of affect and ability to fantasize are impaired.

Varma, Das and Jiloha (1985) tested the correlation of linguistic competence with psychopathology in the Indian setting. Hysterical patients had low linguistic competence as
shown by two subtests of their battery of tests, specifically, Thematic Apperception Test (TAT) measured by total morphenes used and vocabulary subtest. Authors thus concluded that limitations in the linguistic competence may be a predisposing factor in development of somatization. Varma (1982) emphasized the role of linguistic competence to explain cross cultural differences in schizophrenia and differences from patient to patient in the same culture, language may take over from intense anxiety or an organic defect, set into motion a reverberating cycle, with increasing elaboration of delusions being one of the results if patient has high linguistic competence and somatic symptoms because his low linguistic competence does not permit him to elaborate his psychotic anxiety into a delusional system.

The emotional valence of stimuli seems to be stored in the association network and is automatically activated on the mere observation of a stimulus. Examining the relationship between the dimensions of the alexithymia construct and emotional priming effects in a word - word paradigm, the TAS - 20 was administered to 2 subjects along with two word reading tasks as measures of emotional and semantic priming effects. The subscale "difficulty describing feelings" correlated as expected negatively with the negative inhibition effect. The subscale "externally oriented thinking" tended to correlate negatively with the negative facilitation effect. Thus, these dimensions of alexithymia are inversely related to the degree of automatic emotional priming. This is evidence for an impaired structural integration of emotion and language in persons with difficulties in describing feelings. (Suslow, Arolt, Junghams, 1998).

Two studies have compared psychosomatic patients with non-psychosomatic patients for verbal productivity, on the presumption that psychosomatic patients would display diminished verbal productivity and affective expression. In both the studies, psychosomatic patients produced shorter stories with lesser affect laden words. There were found to be statistically significant by Taylor et al (1981), but insignificant by Von Rad et al (1979).
In the Indian study, which compared pain patients with normal control group replicated the above findings but were not statistically significant (Sriram, Chaturvedi, Gopinath and Shanmugam, 1987). Notably, they found TAS correlated with the length of stories and with affect word count and affect variability count.

However, Volhardt et al (1986) examined three groups of arthritis patients (two groups of rheumatoid arthritis and one group of arthritis due to other causes) using the Thematic Apperception Test scores on five variables in a well defined system of scoring. They found no differences in alexithymia among the three groups. Overbeck (1977) analysed the speech - pause behaviour during therapy sessions using the Giessen speech analyzer. With alexithymic subjects he found higher percentage of silences, higher reaction time, higher number of long pauses, low speaking time. Making such analysis more scientific and objective a method of contact analysis of verbal behavior to assess various psychological states has been developed by Gottschalk and Glesser (1979).