

ALEXITHYMIA AND DISSOCIATION

by

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Somatization has long been a challenging diagnosis to make and a difficult disorder to treat. In an attempt to clarify this diagnosis Sifneos (1967) introduced a personality construct which he called alexithymia. He viewed this cluster of personality factors as an inborn predisposition to somatization. Like somatization, however, alexithymia has proven difficult to precisely define and to operationalize. This thesis takes a step toward clarifying the alexithymia construct by relating it to the defense mechanism of dissociation. It begins with descriptions of somatization, alexithymia, and dissociation, continues with a description of theoretical relationships between these three constructs. The present research exploring relationships between alexithymia and dissociation is presented. The results of this research support a relationship between the central features of the alexithymia construct and dissociation. Future research directions in this area are described.

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CHAPTER I

INTRODUCTION

Somatization has long been a challenging diagnosis to make and a difficult disorder to treat. In an attempt to clarify this diagnosis Sifneos (1967) introduced a personality construct which he called alexithymia. He viewed this cluster of personality factors as an inborn predisposition to Somatization. Like somatization however, alexithymia has proven difficult to precisely define and to operationalize. In this thesis, a step is taken toward clarifying the alexithymia construct by relating it to the defense mechanism of dissociation.

The constructs somatization, alexithymia, and dissociation, are discussed separately, followed by a discussion of the theoretical relationships between these three constructs. The present research exploring relationships between alexithymia and dissociation is

presented. The results of this research support a relationship between the central features of the alexithymia construct and dissociation.

CHAPTER II

LITERATURE REVIEW

Somatization

Philosophical Underpinnings

Presupposed in this diagnosis is a distinction between body and mind.

This distinction was well established in Ancient Greece. In the Seventeenth Century this dualism was redescribed and popularized by Rene Descartes. Descartes believed that humans were something more than animal because of the presence of soul. By the word 'Mind' Descartes meant what we would today call soul. (Davison & Neale 1990). This confounding of terms has led to much confusion since Descartes time. Current diagnostic criteria do not mention soul. References to mind, in these diagnostic schema, speak of our phenomenologically based scientific description of mind as a function of certain body parts, principally the central nervous system. For this science, hypotheses about soul are not disconfirmable, and therefore not addressed.

In Chinese thought notions of psychological disorders are quite different from ours. For example they have no category corresponding to depression as an emotional condition. They describe its symptoms as purely physical and treat it as such. In their view we in the west "psychologize" many physical disorders, the opposite of what we view as happening in somatization. For the Chinese the symptoms are in their right place when they are in the body (Kleinman, 1986).

The study of Somatization proceeds under the difficulty that we are uncertain about the nature of the relationships between body, mind, and soul.

Historical Development of the Diagnosis

How to make the diagnosis of somatization disorder has long been a thorn in practitioners' sides: the etiology of the disorder is unknown, somatization can mimic a wide range of disorders, and is challenging to differentiate from other disorders.

The apparent transfer of psychological symptoms from mind to body has been described in western literature for the past 4000 years. To the ancient Greeks it was Hysteria. They observed it to occur exclusively in women and attributed it to the action of the wandering uterus, "hyster" in Greek.

In 1856 Briquet initiated a ten year study of 430 women and out of this study described the syndrome which has become named for him. He listed 59 possible symptoms in many body systems. To receive the diagnosis a woman had to have 25 of the possible symptoms in several different body systems and there had to be no organic basis for the symptoms. He described certain other personality characteristics as part of the syndrome. Such a large number of symptoms were required for diagnosis, because a lower number of symptoms is difficult to distinguish from problems which are simply intractable to the current state of medical diagnostic art. Indeed many persons receiving this diagnosis have subsequently been found to have disease with an organic basis, often several concurrent conditions, which escaped diagnosis earlier because of their complexity.

Essential Features of Briquet's Syndrome

Multiple somatic complaints not apparently due to physical illness.

Chronic, fluctuating course of illness usually beginning in the second decade of life

Found predominantly in women

Complaints are presented in a vague, dramatic, exaggerated way

History of medical care by many physicians, often with numerous unnecessary diagnostic and surgical procedures.

Associated Features of Briquet's Syndrome

Anxiety and depressive symptoms very common

Wide range of interpersonal difficulties, including antisocial behavior and marital problems; histrionic personality features are often present (Kaplan and Sadock, 1985).

In DSM III, APA(1980) the list of possible symptoms for somatization disorder was shortened and the number of symptoms necessary for diagnosis has been reduced to 12 for men and 14 for women, the difference being in the availability of more symptoms for women in their reproductive organs.

In DSM III-R, APA (1987) the list of symptoms is further reduced to 35 and the number required is 13 for either sex. The diagnosis no longer relies on personality characteristics but is simply a count of symptoms. The disorder is now called Somatization Disorder (SD). Symptoms must begin before age 30 and persist for at least 6 months to justify the diagnosis. Those patients who do not have a full count of symptoms required for this diagnosis but who are close to it are labeled somatizers in DSM III, or in DSM III-R as undifferentiated somatoform disorder.

DSM IV(1994) contains small changes from DSM III R.

The diagnostic criteria are placed here side by side for comparison.

DSM III R

A.
A history of many physical complaints or a belief that one is sickly, beginning before age 30 and persisting for several years.

B.

DSM IV

A.
A history of many physical complaints begin before age 30 that occurs over a period of several years and result in treatment being sought or significant impairment in social, occupational, or other important areas of functioning.

B.

At least 13 symptoms from the list below. To count a symptom as significant, the following criteria must be met:

1. no organic pathology or patho-physiologic mechanism (e.g., a physical disorder or the effects of injury, medication, drugs, or alcohol) to account for the symptom or, when there is related organic pathology, the complaint or resulting social or occupational impairment is grossly in excess of what would be expected from the physical findings.
2. has not occurred only during a panic attack
3. has caused the person to take medicine (other than over-the-counter pain medication), see a doctor, or alter lifestyle.

Symptom List

Gastrointestinal symptoms:

- (1) **vomiting (other than during pregnancy)**
- (2) abdominal pain (other than when menstruating)
- (3) nausea (other than motion sickness)
- (4) bloating (gassy)
- (5) diarrhea
- (6) intolerance of (gets sick from) several different foods

Pain symptoms:

- (7) **pain in extremities**
- (8) back pain
- (9) joint pain
- (10) pain during urination
- (11) other pain (excluding headaches)

Cardiopulmonary symptoms:

- (12) **shortness of breath when not exerting oneself**
- (13) palpitations
- (14) chest pain
- (15) dizziness

Each of the following criteria must have been met, with individual symptoms occurring at any time during the course of the disturbance:

(1) four pain symptoms: a history of pain related to at least four different sites or functions (e.g., head, abdomen, back, joints, extremities, chest, rectum, during menstruation, during sexual intercourse, or during urination).

(2) two gastrointestinal symptoms: a history of at least two gastrointestinal symptoms other than pain (e.g., nausea, bloating, vomiting other than during pregnancy, diarrhea, or intolerance of several different foods).

(3) one sexual symptom: a history of at least one sexual or reproductive symptom other than pain (e.g., sexual indifference, erectile or ejaculatory dysfunction, irregular menses, excessive menstrual bleeding, vomiting throughout pregnancy).

(4) one pseudoneurological symptom:

Conversion or pseudoneurologic symptoms: a history of at least one symptom or deficit suggesting a neurological condition not limited to pain

(16) amnesia	(conversion symptoms such as impaired coordination or balance, paralysis or localized weakness, difficulty swallowing or lump in throat, aphonia, urinary retention, hallucinations, loss of touch or pain sensation, double vision, blindness, deafness, seizures: dissociative symptoms such as amnesia; or loss of consciousness other than fainting)
(17) difficulty swallowing	
(18) loss of voice	
(19) deafness	
(20) double vision	
(21) blurred vision	
(22) blindness	
(23) fainting or loss of consciousness	
(24) seizure or convulsion	
(25) trouble walking	
(26) paralysis or muscle weakness	
(27) urinary retention or difficulty urinating	

Sexual symptoms for the major part of the person's life after the opportunity for sexual activity:

- (28) **burning sensation in sexual organs or rectum (other than during intercourse)**
- (29) sexual indifference
- (30) pain during intercourse
- (31) impotence

C. Either (1) or (2):
 (1) after appropriate investigation, each of the symptoms in Criteria B cannot be fully explained by a known general medical condition or the direct effects of a substance (e.g., a drug of abuse, a medication)

(2) when there is a related general medical condition, the physical complaints or resulting social or occupational impairment are in excess of what would be expected from the history, physical examination, or laboratory findings

Female reproductive symptoms judged by the person to occur more frequently or severely than in most women:

- (32) **painful menstruation**
- (33) irregular menstrual periods
- (34) excessive menstrual bleeding
- (35) vomiting throughout pregnancy

D. These symptoms are not intentionally produced or feigned, (as in Factitious Disorder or Malingering).

Note: The seven items in boldface may be used to screen for the disorder. The presence of two or more of these items suggests a high likelihood of the disorder.

Five changes are seen from DSM IIIR to DSM IV: (1) The symptom count is reduced from 13 to 8, (2) the symptoms must now be drawn from each of four new categories, whereas in the older criteria no specific distribution of symptoms was required, (3) The exclusion of symptoms occurring during panic attacks has been removed, (4) A

new exclusion of persons engaging in factitious disorders or malingering is added, (5) DSM III R calls for either a history of many physical complaints or a belief that one is sickly, DSM IV deletes the language about a belief that one is sickly.

Abbreviated Diagnostic Schemata

The list of potential Briquette's syndrome symptoms is long. Several abbreviated screening indices have been developed both for epidemiological studies and clinical use. In epidemiology they have utility since negative answers to a few questions allows the interviewer to skip issues, much less deal with Briquette's full list of 59 physical symptoms. In clinical practice time is at a premium and the diagnosis of Somatization or Briquet's is time consuming and complex.

Swartz, Hughes, Glazer and George (1987) developed such a screening index for SD for use in community studies. He isolated the 11 symptoms from the full DSM III R list of 35 which most often differentiate Somatization disorders, and notes that having any five of these is a good indicator of the whole pattern. The virtue of this abbreviated diagnostic list in ECA studies is that an interviewer can move on to other issues after receiving as few as 7 negative answers to questions.

In his 1987 article Swartz reports on a concordance study of three sets of diagnostic criteria for somatizers; Feighner's 1972 criteria (FC), Research Diagnostic criteria (RDC) and DSM III. A multivariate sequential analysis of Briquette's 59 symptoms led to good reliability, but involved a complex decision tree better suited to computer use than something rememberable by a clinician. He notes that the seven symptoms that best distinguish the syndrome are dysmenorrhea, lump in the throat, vomiting, shortness of breath, burning in sex organs, painful extremities, and amnesia.

Zoccolillo (1986) decries the use of these abbreviated checklists, particularly with their absence of psychological symptoms. He points out that the DSM III-R diagnosis of Somatization disorder relies exclusively on physical symptoms, leaving behind Briquette's concomitant psychological symptoms. He is concerned that the DSM III R diagnosis does not include social disability either as a parent or at work. He notes that in Briquette's description Somatization, Psychopathy and Histrionic disorder were not separate entities but parts of the same syndrome. He further quotes Janet (1902) in Zoccolillo (1986) and Saville (1909) in Zoccolillo (1986) as finding marked emotional instability and multiple personalities in hysterics. He quotes Kraepelin, "The disturbance of the emotional attitude is a most prominent element, Hallucinations, melodramatic suicide attempts, emotional instability, exaggeration and impulsivity in these patients (hysterics)." Cloninger (1986) also decries the use of abbreviated screenings for these patients since they may introduce bias leaving out certain symptom patterns. He encourages the use of the full Briquette Syndrome Criteria not the shorter list in DSM III R, let alone abbreviated checklists.

Differential Diagnosis

A related medical term is Psychophysiological disorder. This disorder seems to include all of the features of DSMIV Somatization disorder as well as physical problems which are quite real in their physicality, but which are none the less of psychological origin (Eastwood, 1975, Haynes, 1981, Kleinman, 1986, Shorter, 1992). Included in psychophysiological disorders are some kinds of asthma, ulcers, colitis, migraines and certain skin disorders.

Differential diagnosis needs to distinguish malingering in which the patient is consciously faking symptoms to avoid work, family or other responsibilities, and from

Munchausen syndrome where the patient will go to elaborate lengths to pretend disorders in order to receive the attention of health care professionals. Here the secondary gain is not in the avoidance of responsibility but in the relationship with the care provider.

Hypochondria is a preoccupation with the fear of having or the belief that one has a serious illness. Somatoform pain disorder is characterized by preoccupation with pain that is not attributable to any mental or physical disorder.

Conversion disorder is a subset of somatization disorder focusing on medically unexplained paralysis and numbness, such as glove anesthesia, non organic and possibly transient blindness, or loss of hearing.

Epidemiology

DSM IV lists the prevalence of somatization disorder in the general population is less than 2% . In ECA studies of five US communities lifetime incidence ranged from .06% to .6% (Escobar, 1989). If the cutoff of number of symptoms is reduced from 13 to 6 the incidence is 100 times higher.

The lifetime incidence in Puerto Rico is almost twice that in the US. (Escobar, 1989). Most of this difference is an increase in the number of men. There is a near equal sex distribution in Puerto Rico, whereas in the US it is almost entirely women. Puerto Ricans also had more symptoms than Mexican Americans with the diagnosis, and the Mexican Americans had a larger number of symptoms than non Hispanic white Americans. Although this study was controlled for education level which is often confounded with ethnicity, differences were still significant: $p < .0001$ in each case.

Physical symptoms with no apparent physical etiology have been related to a variety of psychiatric disorders (Escobar, 1989) . Depression and anxiety syndromes include a striking repertoire of physical symptoms that mimic physical disorder and often bring the

patient to the attention of medical rather than mental health specialists. Nonspecific medical entities such as hyperventilation syndrome, irritable bowel, atypical chest pain and chronic fatigue have often been found to be affective or anxiety symptoms in disguise.

Most patients with somatization disorder had previous psychiatric diagnoses, major depression and alcohol or other substance abuse being the most common (Katon, 1985).

Cloninger in the introduction to his (1986) study notes that theretofore no data had been available to assess the validity of the diagnosis of SD in men. He quotes Warner (1978) as finding that both male and female professionals tend to label men diagnosable as SD as antisocial and such women as hysterical, even though they have identical clinical features. Cloninger's own (1986) study looked at this pattern carefully and does report a difference between most men and most women in this regard. Comparing data from the US with that in Puerto Rico where there are fewer gender differences, he believes that the differential expression of the syndrome is cultural.

Physiology

Gordon (1986 a, b) studied the discrimination of tones and patterns of tones to show that somatization disorder is associated with an impaired ability to filter out and not respond to relatively meaningless stimuli. He speculates that if this is true for sound it might also be true for proprioception. Gordon further speculates that the Somatizer may not be able to screen from his attention the normal small sensations of the body, and may attach catastrophic significance to them.

James (1987) replicated Gordon's tone discrimination study and looked also at blood flow in areas of the brain as measured with Larsen's Xenon 133 IV technique. During a spatial matching task the right parietal region of the brain had greater blood flow. This was more pronounced $p=0.05$ for SD patients indicating hyperactivity of this area which appears to be involved in the cortical network of directed attention.

Several studies show alteration in endocrine response in SD patients. Vaernes (1987) found that emotional stress changes levels of cortisol, prolactin, testosterone, epinephrine and norepinephrine in the bloodstream. Factor analysis showed that cortisol levels were related to type of defense mechanism, testosterone to role identification, and catecholamine factors to performance. All of these psychological factors are part of the picture in SD (Gustafson & Kallmen, 1990)

Banks (1988) notes a physiologic factor useful in differential diagnosis. Thyrotropin releasing hormone level is markedly higher in depressed patients, but not in SD or peripheral neurological disorders.

Etiology

No clear picture of the etiology of this disorder has emerged. This has retarded the development of a standard treatment regimen for SD. At present no standard treatment is described in the medical literature (Gordon, 1986).

Zoccolillo (1985), quotes Bohman's (1984) study of somatization disorder in adoptees. Bohman identified both genetic and social determinants of the somatoform disorders. Women with somatization disorder are seven times more likely to be married to an antisocial husband than women with no psychiatric diagnosis. Among divorced women 10% are diagnosable as having Briquet's syndrome, a level ten times that of the general population. Almost 50% of convicted female felons met the criteria for Briquet's syndrome. Zoccolillo (1985) interprets this to mean that women with Briquet's tend to be antisocial, or at least have relationship difficulties, rather than divorce or imprisonment being stressors which lead to the physical syndrome.

Several attempts have tried to link child sexual abuse to somatization disorder in the adult. Most of these studies have reported equivocal results or have been weak in control, however Briene & Runts (1988) administered a checklist of symptoms to university women who reported being victims of childhood sexual abuse and found

elevated levels of dissociation, somatization, anxiety, and depression compared to women who denied childhood sexual abuse. These symptoms were all greater with increased age of abuser, number of abusers, use of force during violation, parental incest, penetration, or extended duration of time.

Briere & Runtz (1988) go on to cite Kilpatrick & Vernon (1981), whose study typifies rape as an in vivo classical conditioning situation where aspects of assault become conditioned stimuli that evoke subsequent anxiety reactions in other situations. They speculate that such conditioned anxiety reactions lead to SD symptoms.

A review of the literature on birth order studies with respect to SD by Brown and Smith (1989) found equivocal results in their metaanalysis, but note that most such studies have severe methodological flaws, most commonly having poor or non-existent control. Brown and Smith's own study (1989) is well controlled and finds no support for correlation between SD and birth order. These authors combine this information with the strength of evidence in family studies to give weight to a genetic basis of SD.

Alexithymia

The term alexithymia is derived from the Greek words *a / lexi / thymos*, meaning 'no words (for) feelings'. Sifneos (1967) introduced this construct building upon the work of previous thinkers, notably Marty & M'Uzan (1963 a,b). Sifneos views alexithymia as a personality style which predisposes the person for somatization disorder and related psychosomatic conditions. In addition to an inability to name feelings, Sifneos described such persons as having difficulty recognizing feelings, having an impoverished fantasy life, denying that they dream, and displaying a concrete thinking style.

The reader will notice the contrast between Briquet and Sifneos' characterization of somatizers. Briquet describes them as histrionic, Sifneos describes them as having

virtually flat affect.

Marty & M'Uzan had described many persons with somatization disorder as describing their multiple debilitating conditions with a thorough lack of affect. They described this communication style as "La Belle Indifference", beautiful indifference.

Since its introduction in 1967, there has been considerable effort to describe, measure, and validate Sifneos' construct. Evaluation of the several instruments which have been developed and put into use will be detailed below. Few of these instruments have been shown to have acceptable construct validity. The etiology and exact nature of alexithymia remain unclear. After reading almost all of the available English language literature on Alexithymia, my impression is that part of the difficulty in describing and validating the Alexithymia construct is that it is not an independent construct, instead Alexithymia heavily overlaps the defense mechanism dissociation.

Sifneos (1967) sees alexithymia as a predisposing factor for migraines, spastic colon, colitis, ulcers, some types of asthma, and certain skin disorders in addition to conditions currently associated with somatization. These conditions carry more substantial objective findings than somatization disorder as defined in DSM IV, and are closer to the current medical classification: Psychophysiologic disorders, (Eastwood, 1975, Haynes and Gannon, 1981, Kleinman, 1986, Shorter, 1992.)

Alexithymia and other Constructs Including Defense Mechanisms

In the history of alexithymia research attempts have been made to relate alexithymia to several other constructs including defense mechanism. In this section I give an overview of that research to suggest some of the ways that these efforts have helped shape our understanding of Alexithymia. My present research adds another piece to this puzzle, connecting alexithymia to dissociation. Unless specifically stated otherwise, all of the

results reported from these studies were statistically significant.

Bagby, Taylor and Ryan (1986b) were able to find no significant relationship between alexithymia and denial. Cohen (1994) examined this relationship from another perspective and reports the same lack of support for relationship between alexithymia and denial.

Martin and Pihl (1986), and Martin, Pihl, Young, and Erwin (1986) were not able to find significant relationships between alexithymia and repression, trait anxiety, and social desirability.

They found persons with high levels of alexithymia to demonstrate high levels of sympathetic activity and a dissociation between subjective and physiological stress responses. Their work narrows the field of how we can describe alexithymia in terms of defense which lend weight to my dissociation hypothesis: Martin and Pihl's subjects have physiological fight or flight responses unaccompanied by fear or anger. The absence of these affects (or any other affect for that matter) supports the notion that Alexithymia is dissociative in nature.

Benedetti (1983) sees many persons who have psychosomatic conditions and alexithymic characteristics as also exhibiting a splitting defense. A splitting defense is an inability to contain ambiguity. Persons with strong splitting defenses tend to view people and events in very black and white terms, very good or very bad with little middle ground. In the mind of a person with a strong splitting defense, a person or event may change categories from good to bad or vice versa with seemingly slight provocation. Persons with splitting defenses have a difficult time keeping in mind both the bad and good qualities of either themselves or another person, or an event. Benedetti's work is based on clinic experience rather than research, and I chose to include it in the interest of completeness. Following up Benedetti's observations with research would help to delimit alexithymia in much the same fashion as the present proposed research.

Nemiah (1975) was able to find no significant relationship between alexithymia and conscious denial. This is an important distinction. My thesis is that the 'not knowing' of both alexithymia and dissociation are unconscious processes.

Wise, Mann, and Hill (1990) looked at alexithymia and depression in psychiatric patients and were not able to find significant relationship between the two. Saarijarvi, Salminen, Tamminen, and Aarela (1993) reported a significant positive correlation between alexithymia and depression in another study of psychiatric inpatients.

Johston, Stinski and Meyers (1993) reported research which touched on the relationship between alexithymia and measures of emotional repression and found them to have a significant positive correlation.

Keltikangas-Jarvinen, (1990), Martin, Pihl and Dobkin, (1984), and Bogdanovic, Adamovic, Eric and Pendic, (1989) each measured alexithymia and type A behavior in various populations and were not able to find significant relationships between the two constructs.

There are no reports of work relating the alexithymia construct to defense mechanisms other than those listed in this section.

Measurement of alexithymia

Nine instruments have been developed for the measurement of alexithymia. Two of these instruments, the Beth Israel Hospital Psychometric questionnaire (BIQ), and the Alexithymia Provoked Response Questionnaire (APQR) are structured interviews. Five of these instruments are self report scales: the Schalling-Sifneos Personality scale (SSPS), the Schalling Sifneos Personality Scale Revised (SSPS-R), the Toronto Alexithymia Scale (TAS), and the Toronto Alexithymia Scale Revised (TAS-R), and the Minnesota Multiphasic Personality Inventory-Alexithymia Scale, (MMPI-AS). Two other

instruments, a set of Rorschach response characteristics, and a projective measure known as the Symbolic Archetypal Test with Nine Elements (SAT-9) have been used to assess certain dimensions of the Alexithymia construct (Parker, Taylor, Bagby and Thomas 1991).

There is evidence that some of these instruments have poor validity and little or no relationship to each other (Paulson, 1984, Taylor, Bagby, Ryan and Parker 1988, Taylor and Bagby, 1988, Bagby, Taylor and Atkinson 1988, Norton 1989). Details of these studies are given in the paragraphs that follow.

The SSPS is a 20 item self report questionnaire with a four point Likert . It is constructed of transparent items which reflect the domain of alexithymia, however it was not subject to factor analysis or assessed for internal consistency prior to clinical research use. Later work showed that the SSPS lacks item total correlations, is internally inconsistent, and has an unstable factor structure. In essence this means that the factor structure does not replicate well between samples (Faryna, Rodenhausen and Torem 1986, Norton 1989, Bagby, Taylor, and Ryan 1986 a, b, Bagby, Taylor and Atkinson 1988, Bagby, Taylor and Parker 1988, Martin, Pihl and Dobkin 1984). Factor analysis is a statistical method which describes clusters of items in an instrument which tend to be coendorsed by subjects. This method both lists the items likely to be coendorsed, and states the relative likelihood that they will be coendorsed. Any given instrument may have two or more such clusters of items.

Responding to the criticism of the SSPS, Sifneos introduced a revised version the SSPS-R. Parker, Taylor and Bagby (1991) examined this revised instrument for internal reliability, homogeneity and factor structure, and found it again lacking in all of these areas.

Attempts to replicate the original validation of the Minnesota Multiphasic Inventory Alexithymia Scale (MMPI-AS) on larger or more diverse samples has not been successful: it has poor internal consistency, social desirability response bias, and a three factor

structure that does not adequately represent the theoretical domains of alexithymia, Demers-Desrosiers, Cohen, Catchlove and Ramsey, 1983, Federman and Mohns, 1984, Faryna 1986, Briggs, 1989, Norton 1989, Bagby, Parker & Taylor 1991a,b,)

Little evaluation has been done of the psychometric properties of the SAT-9 and the Rorschach alexithymia indices (Parker 1991).

The Toronto Alexithymia Scale (TAS) was developed using a construct oriented factor analytic approach (Taylor 1985). In both clinical and non clinical trials, the TAS has demonstrated internal consistency, convergent and divergent validity, test-retest reliability and a stable, replicable factor structure theoretically consistent with the alexithymia construct (Haviland, Shaw, MacMurray, and Cummings 1988).

The TAS has also been able to discriminate between a sample of persons labeled alexithymic on the basis of clinical interviews and a sample of behavioral medicine outpatients who were similarly interviewed but who did not receive that designation (Taylor, 1988).

The items and therefore the factor structure of the TAS do not fully include the denial of dreaming dimension which Sifneos originally posited: it includes items about daydreaming but not sleep dreams. While the TAS shows a stable four factor structure with clinical samples, an additional, fifth factor emerges with non clinical samples. A three factor structure has been reported for some samples. There is slight overlap among some of the factors in the TAS. Responding to this ambiguity Taylor, Bagby and Parker, (1992) used a factor analytic approach to make a revision of the TAS known as TAS Revised or TAS-R. They added many new items, and in field trials winnowed this down to a scale which eliminated some of the old items, retained a few of the new ones, and resulted in a 23 item instrument. This gave a factor structure without overlap; however the result was a two factor structure, which overall does not seem to separate the four originally posited dimensions of Alexithymia as well as does the TAS. Like the original

TAS, the TAS-R has no dream recall questions about sleep dreams, only daydreaming. There are no reports of use of this instrument in the literature after its introduction in 1992.

The Beth Israel Hospital Questionnaire (BIQ) has been reported to correlate with the TAS (Sriram, Chaturvedi, Gopinath and Subbakrishna, 1987) and to have a factor structure consistent with alexithymia (Gardos et al 1984). However, the internal consistencies of the factor scales and the interrater reliability of the BIQ are poor (Taylor, Bagby, Ryan and Parker 1988).

The APQR was derived from an early self report version of the BIQ. The APQR minimizes interviewer bias and Krystal, Giller, and Cicchetti (1986) report it to be reliable. However, it is limited to measuring affective functioning only, ignoring the other dimensions of the alexithymia construct.

Thus the TAS is regarded as the best currently available instrument to assess alexithymia. It has the advantage for my present proposed research of being an easily administered and easily scored self report measure. The information gained from it is in a form quite similar to that for the Dissociative assessment instrument of choice to be discussed below.

Dissociation

Historically dissociation has been described as two or more mental processes that coexist or alternate without being connected or influencing one another. Prior to Freud and the discovery of the unconscious, dissociation was considered to be a constitutional weakness of the integrative functions, (Gregory, 1989). While dissociation may segregate any group of mental or behavioral processes from the rest of a person's psychic activity, it often entails the separation of an idea from its accompanying emotional tone (Kaplan & Sadock, 1985).

When dissociation reaches pathologic proportions, it is seen as a central factor in obsessive-compulsive disorders, hysterical conversion, amnesia, dissociative identity disorder and somatization (Rosenhan and Seligman, 1989).

We have moved a long way since the pre Freudian view of dissociation as an organic weakness. Judith Herman reviews the literature on dissociation and reminds us that dissociation is a response to trauma. One of the difficulties in diagnosing and treating complex traumatic dissociative disorders is that the dissociation makes so much information difficult to access (Herman, 1992).

Measurement of Dissociation

For measurement of dissociation there are two instruments, the dissociative experiences scale (DES) (Bernstein and Putnam 1986), and the Dissociative Disorders Interview Schedule (DDIS) (Bliss, 1980, 1982).

The dissociative experiences scale is a 28 item self report measure. Each item describes a kind of experience that the subjects may have had. For each item the subject is presented with a 10 cm line labeled 0% at one end and 100% at the other end. The subject is asked to make a mark on the line to represent how often s/he has that experience. Scoring is by linear measurement to the nearest 5 mm. Factor analysis has revealed a three factor structure and these subscales can be scored separately (Bernstein & Putnam 1986). The DES is reported as having good test-retest reliability and internal reliability (Bernstein and Putnam 1986; Frischholz et al, 1991; Rosenthal and Rosnow, 1991). The interrater reliability of the instrument was studied by Frischholz et al (1990) and is reported as .99 across scorers (n=20). This seems remarkably high for interrater reliability, but what it measures is the rater's ability to measure lines to the nearest 5 mm. Studies of construct validity have been reported by Frischholz et al (1991), Nadon et al (1991), Bernstein and

Putnam (1986), Ross, Joshi and Currie, (1990), and Branscomb (1991). The several measures of convergent and discriminant validity reported by these writers are all favorable and contribute to an impression of good construct validity.

Criterion validity studies have been reported by Frischholz et al (1990), and Steinberg, Rounsaville & Cicchetti (1991). These findings indicate good concurrent and criterion related validity.

A revision of the DES known as DES-II has been developed. It differs from the original DES only in scoring method. Rather than marking a line, subjects are asked to circle one of 11 numbers ranging in 10 percentile increments from 0% to 100%, essentially an 11 point Likert scale.

The dissociative experiences scale has been shown to have a three factor structure A) amnesic dissociation, B) depersonalization and derealization, and C) imaginative involvement. These factors are reflected as the subscales of this instrument (Carlson et al., 1991, Ross, Joshi, and Currie, 1991).

Another instrument to measure dissociation is a structured interview known as the Dissociative Disorders Interview Schedule. This structured interview is reported as having similarly good validity despite an understandably somewhat lower interrater reliability than the DES. Bliss (1982) reviewed reports of validity research for this measure, and reported excellent construct validity and interrater reliability ranging from .69 to .81 across studies. The instrument, while it looks at dissociative experiences, is geared to forming a diagnosis.

I have chosen to use the DES rather than the DDIS. The DES is easier to administer and is better focused on the domain under consideration. I will use the DES II rather than the DES because it is easier to score, and the resulting data is in a form more similar to that of the alexithymia measure of choice.

Alexithymia

The term alexithymia is derived from the Greek words a / lexi / thymos, meaning 'no words (for) feelings'. Sifneos (1967) introduced this construct building upon the work of previous thinkers, notably Marty & M'Uzan (1963 a,b). Sifneos views alexithymia as a personality style which predisposes the person for somatization disorder and related psychosomatic conditions. In addition to an inability to name feelings, Sifneos described such persons as having difficulty recognizing feelings, having an impoverished fantasy life, denying that they dream, and displaying a concrete thinking style.

The reader will notice the contrast between Briquet and Sifneos' characterization of somatizers. Briquet describes them as histrionic, Sifneos describes them as having virtually flat affect.

Marty & M'Uzan had described many persons with somatization disorder as describing their multiple debilitating conditions with a thorough lack of affect. They described this communication style as "La Belle Indifference", beautiful indifference.

Since its introduction in 1967, there has been considerable effort to describe, measure, and validate Sifneos' construct. Evaluation of the several instruments which have been developed and put into use will be detailed below. Few of these instruments have been shown to have acceptable construct validity. The etiology and exact nature of alexithymia remain unclear. After reading almost all of the available English language literature on Alexithymia, my impression is that part of the difficulty in describing and validating the Alexilthymia construct is that it is not an independent construct, instead Alexithymia heavily overlaps the defense mechanism dissociation.

Sifneos (1967) sees alexithymia as a predisposing factor for migraines, spastic colon, colitis, ulcers, some types of asthma, and certain skin disorders in addition to

conditions currently associated with somatization. These conditions carry more substantial objective findings than somatization disorder as defined in DSM IV, and are closer to the current medical classification: Psychophysiological disorders, (Eastwood, 1975, Haynes and Gannon, 1981, Kleinman, 1986, Shorter, 1992.)

Alexithymia and other Constructs Including Defense Mechanisms

In the history of alexithymia research attempts have been made to relate alexithymia to several other constructs including defense mechanism. In this section I give an overview of that research to suggest some of the ways that these efforts have helped shape our understanding of Alexithymia. My present research adds another piece to this puzzle, connecting alexithymia to dissociation. Unless specifically stated otherwise, all of the results reported from these studies were statistically significant.

Bagby, Taylor and Ryan (1986b) were able to find no significant relationship between alexithymia and denial. Cohen (1994) examined this relationship from another perspective and reports the same lack of support for relationship between alexithymia and denial.

Martin and Pihl (1986), and Martin, Pihl, Young, and Erwin (1986) were not able to find significant relationships between alexithymia and repression, trait anxiety, and social desirability.

They found persons with high levels of alexithymia to demonstrate high levels of sympathetic activity and a dissociation between subjective and physiological stress responses. Their work narrows the field of how we can describe alexithymia in terms of defense which lend weight to my dissociation hypothesis: Martin and Pihl's subjects have physiological fight or flight responses unaccompanied by fear or anger. The absence of these affects (or any other affect for that matter) supports the notion that Alexithymia is dissociative in nature.

Benedetti (1983) sees many persons who have psychosomatic conditions and alexithymic characteristics as also exhibiting a splitting defense. A splitting defense is an inability to contain ambiguity. Persons with strong splitting defenses tend to view people and events in very black and white terms, very good or very bad with little middle ground. In the mind of a person with a strong splitting defense, a person or event may change categories from good to bad or vice versa with seemingly slight provocation. Persons with splitting defenses have a difficult time keeping in mind both the bad and good qualities of either themselves or another person, or an event. Benedetti's work is based on clinic experience rather than research, and I chose to include it in the interest of completeness. Following up Benedetti's observations with research would help to delimit alexithymia in much the same fashion as the present proposed research.

Nemiah (1975) was able to find no significant relationship between alexithymia and conscious denial. This is an important distinction. My thesis is that the 'not knowing' of both alexithymia and dissociation are unconscious processes.

Wise, Mann, and Hill (1990) looked at alexithymia and depression in psychiatric patients and were not able to find significant relationship between the two. Saarijarvi, Salminen, Tamminen, and Aarela (1993) reported a significant positive correlation between alexithymia and depression in another study of psychiatric inpatients.

Johston, Stinski and Meyers (1993) reported research which touched on the relationship between alexithymia and measures of emotional repression and found them to have a significant positive correlation.

Keltikangas-Jarvinen, (1990), Martin, Pihl and Dobkin, (1984), and Bogdanovic, Adamovic, Eric and Pendic, (1989) each measured alexithymia and type A behavior in various populations and were not able to find significant relationships between the two constructs.

There are no reports of work relating the alexithymia construct to defense mechanisms other than those listed in this section.

Measurement of alexithymia

Nine instruments have been developed for the measurement of alexithymia. Two of these instruments, the Beth Israel Hospital Psychometric questionnaire (BIQ), and the Alexithymia Provoked Response Questionnaire (APQR) are structured interviews. Five of these instruments are self report scales: the Schalling-Sifneos Personality scale (SSPS), the Schalling Sifneos Personality Scale Revised (SSPS-R), the Toronto Alexithymia Scale (TAS), and the Toronto Alexithymia Scale Revised (TAS-R), and the Minnesota Multiphasic Personality Inventory-Alexithymia Scale, (MMPI-AS). Two other instruments, a set of Rorschach response characteristics, and a projective measure known as the Symbolic Archetypal Test with Nine Elements (SAT-9) have been used to assess certain dimensions of the Alexithymia construct (Parker, Taylor, Bagby and Thomas 1991).

There is evidence that some of these instruments have poor validity and little or no relationship to each other (Paulson, 1984, Taylor, Bagby, Ryan and Parker 1988, Taylor and Bagby, 1988, Bagby, Taylor and Atkinson 1988, Norton 1989). Details of these studies are given in the paragraphs that follow.

The SSPS is a 20 item self report questionnaire with a four point Likert . It is constructed of transparent items which reflect the domain of alexithymia, however it was not subject to factor analysis or assessed for internal consistency prior to clinical research use. Later work showed that the SSPS lacks item total correlations, is internally inconsistent, and has an unstable factor structure. In essence this means that the factor structure does not replicate well between samples (Faryna, Rodenhausen and Torem 1986, Norton 1989, Bagby, Taylor, and Ryan 1986 a, b, Bagby, Taylor and Atkinson 1988, Bagby, Taylor and Parker 1988, Martin, Pihl and Dobkin 1984). Factor analysis is a statistical method which describes clusters of items in an instrument which tend to be coendorsed by

subjects. This method both lists the items likely to be coendorsed, and states the relative likelihood that they will be coendorsed. Any given instrument may have two or more such clusters of items.

Responding to the criticism of the SSPS, Sifneos introduced a revised version the SSPS-R. Parker, Taylor and Bagby (1991) examined this revised instrument for internal reliability, homogeneity and factor structure, and found it again lacking in all of these areas.

Attempts to replicate the original validation of the Minnesota Multiphasic Inventory Alexithymia Scale (MMPI-AS) on larger or more diverse samples has not been successful: it has poor internal consistency, social desirability response bias, and a three factor structure that does not adequately represent the theoretical domains of alexithymia, Demers-Desrosiers, Cohen, Catchlove and Ramsey, 1983, Federman and Mohns, 1984, Faryna 1986, Briggs, 1989, Norton 1989, Bagby, Parker & Taylor 1991a,b,)

Little evaluation has been done of the psychometric properties of the SAT-9 and the Rorschach alexithymia indices (Parker 1991).

The Toronto Alexithymia Scale (TAS) was developed using a construct oriented factor analytic approach (Taylor 1985). In both clinical and non clinical trials, the TAS has demonstrated internal consistency, convergent and divergent validity, test-retest reliability and a stable, replicable factor structure theoretically consistent with the alexithymia construct (Haviland, Shaw, MacMurray, and Cummings 1988).

The TAS has also been able to discriminate between a sample of persons labeled alexithymic on the basis of clinical interviews and a sample of behavioral medicine outpatients who were similarly interviewed but who did not receive that designation (Taylor, 1988).

The items and therefore the factor structure of the TAS do not fully include the denial of dreaming dimension which Sifneos originally posited: it includes items about daydreaming but not sleep dreams. While the TAS shows a stable four factor structure with clinical samples, an additional, fifth factor emerges with non clinical samples. A three

factor structure has been reported for some samples. There is slight overlap among some of the factors in the TAS. Responding to this ambiguity Taylor, Bagby and Parker, (1992) used a factor analytic approach to make a revision of the TAS known as TAS Revised or TAS-R. They added many new items, and in field trials winnowed this down to a scale which eliminated some of the old items, retained a few of the new ones, and resulted in a 23 item instrument. This gave a factor structure without overlap; however the result was a two factor structure, which overall does not seem to separate the four originally posited dimensions of Alexithymia as well as does the TAS. Like the original TAS, the TAS-R has no dream recall questions about sleep dreams, only daydreaming. There are no reports of use of this instrument in the literature after its introduction in 1992.

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APPENDIX A
DISSOCIATIVE EXPERIENCES SCALE

Directions

This questionnaire consists of twenty-eight questions about experiences that you may have in your daily life. We are interested in how often you have these experiences. It is important however, that your answers show how often these experiences happen to you when you **are not** under the influence of alcohol or drugs. To answer the questions, please determine to what degree the experience described in the question applies to you and circle the appropriate percentage as shown in the example below.

Example:

0% 10% 20% 30% 40% 50% 60% 70% 80% 80% 100%

Dissociative Experiences Scale

Date _____ Age _____ Sex: M F

Native Language _____

1. Some people have the experience of driving a car and suddenly realizing that they don't remember what has happened during all or part of the trip. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

2. Some people find that sometimes they are listening to someone talk and they suddenly realize that they did not hear part or all of what was said. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

3. Some people have the experience of finding themselves in a place and having no idea how they got there. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

4. Some people have the experience of finding themselves dressed in clothes that they don't remember putting on. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

5. Some people have the experience of finding new things among their belongings that they do not remember buying. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

6. Some people sometimes find that they are approached by people that they do not know who call them by another name or insist that they have met them before. Circle the number below to indicate the percentage of the time this happens to you,

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

7. Some people sometimes have the experience of feeling as though they are standing next to themselves or watching themselves do something and they actually see themselves as if they were looking at another person. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

8. Some people are told that they sometimes do not recognize friends or family members. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

9. Some people find that they have no memory for some important events in their lives (for example, a wedding or graduation). Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

10. Some people have the experience of being accused of lying when they do not think that they have lied. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

11. Some people have the experience of looking in a mirror and not recognizing themselves. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

12. Some people have the experience of feeling that other people, objects, and the world around them are not real. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

13. Some people have the experience of feeling that their body does not seem to belong to them. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

14. Some people have the experience of sometimes remembering a past event so vividly that they feel as if they were reliving that event. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

15. Some people have the experience of not being sure whether things that they remember happening really did happen or whether they just dreamed them. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

16. Some people have the experience of being in a familiar place but find it strange and unfamiliar. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

17. Some people find that when they are watching television or a movie they become so absorbed in the story that they are unaware of other events happening around them. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

18. Some people find that they become so involved in a fantasy or daydream that it feels as though it were really happening to them. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

19. Some people find that they sometimes are able to ignore pain. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

20. Some people find that they sometimes sit staring off into space, thinking of nothing, and are not aware of the passage of time. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

21. Some people sometimes find that when they are alone they talk out loud to themselves. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

22. Some people find that in one situation they may act so differently compared with another situation that they feel almost as if they were two different people. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

23. Some people sometimes find that in certain situations they are able to do things with amazing ease and spontaneity that would usually be difficult for them (for example, sports, work, social situations, etc.) Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

24. Some people sometimes find that they cannot remember whether they have done something or have just thought about doing that thing (for example, not knowing whether they have just mailed a letter or have just thought about mailing it). Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

25. Some people find evidence that they have done things that they do not remember doing. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

26. Some people sometimes find writings, drawings, or notes among their belongings that they must have done but cannot remember doing. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

27. Some people sometimes find that they hear voices inside their head that tell them to do things or comment on things that they are doing. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

28. Some people sometimes feel as if they are looking at the world through a fog so that people and objects appear far away or unclear. Circle the number below to indicate the percentage of the time this happens to you.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

APPENDIX B

TORONTO ALEXITHYMIA SCALE

Instructions

Using the scale provided as a guide indicate how much you agree or disagree with each of the following statements by placing an X in the appropriate place. Give only one answer for each statement: (1)Strongly Disagree, (2) Moderately Disagree, (3) Neither Disagree nor Agree, (4) Moderately Agree, (5)Strongly Agree.

	Strongly disagree	Moderately disagree	neither disagree nor agree	Moderately agree	Strongly agree
1. When I cry I always know why.	—	—	—	---	—
2. Daydreaming is a waste of time.	—	—	—	---	—
3. I wish I were not so shy.	—	—	—	---	—
4. I am often confused about what emotion I am feeling.	—	—	—	---	—
5. I often daydream about the future	—	—	—	---	—
6. I seem to make friends as easily as others do.	—	—	—	---	—
7. Knowing the answers to problems is more important than knowing the reasons for the answers.	—	—	—	---	—
8. It is difficult for me to find the right words for my feelings.	—	—	—	---	—
9. I like to let people know where I stand on things.	—	—	—	---	—
10. I have physical sensations that even doctors don't understand.	—	—	—	---	—
11. It's not enough for me that something gets the job done. I need to know how it works.	—	—	—	---	—
12. I'm able to describe my feelings easily.	—	—	—	---	—
13. I prefer to analyze problems rather than just describe them.	—	—	—	---	—

	Strongly disagree	Moderately disagree	neither disagree nor agree	Moderately agree	Strongly agree
14. When I am upset, I don't know if I am sad, frightened, or angry.	—	—	—	---	—
15. I use my imagination a great deal.	—	—	—	---	—
16. I spend much time daydreaming whenever I have nothing else to do.	—	—	—	---	—
17. I am often puzzled by sensations in my body.	—	—	—	---	—
18. I daydream rarely.	—	—	—	---	—
19. I prefer to just let things happen rather than to understand why they turned out that way.	—	—	—	---	—
20. I have feelings that I can't quite identify.	—	—	—	---	—
21. being in touch with emotions is essential.	—	—	—	---	—
22. I find it hard to describe how I feel about people.	—	—	—	---	—
23. People tell me to describe my feelings more.	—	—	—	---	—
24. One should look for deeper explanations.	—	—	—	---	—
25. I don't know what's going on inside me.	—	—	—	---	—
26. I often don't know why I am angry.	—	—	—	---	—

APPENDIX C

STATISTICAL SUPPORT FOR
PRELIMINARY DATA ANALYSIS

Table 13. Distribution of Subjects by Gender and Native Language

	Female	Male	Total
Non native English speakers	6	3	9
Native English speakers	61	54	115
Total	67	57	124

Table 14. Descriptive Statistics by Native Language and Tests for Homogeneity of Means

	TAS			DES		
	N	Mean	STD	N	Mean	STD
Native Speaker						
Not-English	9	66.3	17.96	9	53.9	31.91
English	115	61.8	11.04	115	46.1	31.72
All	124	62.1	11.64	124	46.6	31.67

t-test for homogeneity of means
Variable: TAS total score

NATIVE	N	Mean	Std. Dev.	Std. Error
Not-English	9	66.33	17.96	5.99
English	115	61.82	11.04	1.03

t	DF	Prob. >t
1.1224	122.0	0.2639

For Ho: variances are equal, $F' = 2.64$ DF = (8,114) Prob.> $F' = 0.0214$

Table 14. continued

t-test for homogeneity of means

Variable: DES total score

	NATIVE	N	Mean	Std. Dev.	Std. Error
Not-English		9	53.8888888889	31.90785344	10.63595115
English		115	46.05217391	31.72077837	2.95797783

	T	DF	Prob.>/T/
Unequal	0.7099	9.3	0.4953
Equal	0.7135	122.0	0.4769

For H0: Variances are equal, $F' = 1.01$ DF = (8,114) prob. $F' = 0.8624$

Table 15. Descriptive Statistics by Gender and Tests for Homogeneity of Means

Gender	N	TAS		DES	
		Mean	STD	Mean	STD
F	67	62.8	11.76	44.8	31.42
M	57	61.4	11.54	48.8	32.10
All	124	62.1	11.64	46.6	31.67

t-tests for homogeneity of means

Variable TAS Total score

Gender	N	Mean	Std Dev	Std. Error
F	67	62.79	11.76	1.45
M	57	61.39	11.552	1.53

t	DF	Prob. >t
0.6686	122.0	0.5050

For Ho: Variances are equal $F'=1.04$ DF = (66,56) Prob. $>F' = 0.8905$

t-tests for homogeneity of means

Variable DES Total score

Gender	N	Mean	Std Dev	Std. Error
F	67	44.78	31.428	3.84
M	57	48.79	32.10	4.25

t	DF	Prob. >t
-0.7018	122	0.4841

For Ho: Variances are equal $F'=1.04$ DF = (56,66) Prob. $>F' = 0.8638$

Table 16. Descriptive Statistics by Gender, Test order and Native Language, and Tests for Homogeneity of Means, and Homogeneity of Variance

	TAS											
	Gender				Gender				Gender			
	F		M		F		M		F		M	
	Test order D/T	Test order T/D										
Native lang.	N	N	N	N	Mean	Mean	Mean	Mean	STD	STD	STD	STD
Not-English	3	3	1	2	65.3	71.0	66.0	61.0	19.43	22.11	(*)	26.87
English	34	27	30	24	61.8	62.8	61.5	61.0	10.86	11.19	11.05	11.75

* Note that this cell contains only a single observation, it is not a mean, but an individual score, therefore no Std deviation is not calculated.

	DES											
	Gender				Gender				Gender			
	F		M		F		M		F		M	
	Test order D/T	Test order T/D										
Native lang.	N	N	N	N	Mean	Mean	Mean	Mean	STD	STD	STD	STD
Not-English	3	3	1	2	44.7	56.7	69.0	56.0	43.41	37.43	(*)	32.53
English	34	27	30	24	47.3	40.3	53.6	41.3	33.56	27.93	35.73	27.25

* note that this cell contains only a single subject, this entry is not a mean, but a score, therefore no std deviation is calculated.

Homogeneity of Means for TAS scores
General Linear Models Procedure
Dependent Variable: TAS total Score

Source	DF	Sum of Squares	Mean Squar	F value	Pr > F
Model	3	222.50	74.17	0.54	0.65
Error	120	16432.89	136.94		

R-Square	C.V.	Root MSE	TA Mean
0.013	18.83038	11.70	62.15

Source	DF	Type III SS	Mean Square	F Value	Pr . F
Gender	1	47.84	47.84	0.35	0.56
test order	1	4.81	4.81	0.04	0.85
native language	1	153.11	153.11	1.12	0.29

Table 16. continued

Homogeneity of Variance Tests for TAS scores
The smaller the p-value the more evidence against homogeneity

Test Name	F Ratio	Numerator Degrees of Freedom	Denominator Degrees of Freedom	Probability of >F
O'Brien	2.88652	5	115	0.0171
Brown-Forsythe	2.05822	6	116	0.0634
Levene	1.81726	6	116	0.1016
Bartlett	1.08536	6	.	0.3683
Welch ANOVA	0.11037	6	7.751	0.9924

Homogeneity of Means for DES Scores

General Linear Models Procedure

Dependent Variable: TAS total Score

Source	DF	Sum of Squares	Mean Square	F value	Pr > F
Model	3	3240.31	1080.10	1.08	0.36
Error	120	120124.88	1001.04		
Corrected Total	123	123365.19			

R-Square	C.V.	Root MSE	TASTOT Mean
0.026266	67.86	31.64	46.62

Source	DF	Type III SS	Mean Square	F Value	Pr . F
Gender	1	601.28	601.28	0.60	0.4399
TSTORD	1	2154.64	2154.64	2.15	0.1450
NATIVE	1	728.24	728.24	0.73	0.3954

Homogeneity of Variance Tests
The smaller the p-value the more evidence against homogeneity

Test Name	F Ratio	Numerator Degrees of Freedom	Denominator Degrees of Freedom	Probability of >F
O'Brien	0.44909	5	115	0.8132
Brown-Forsythe	0.31047	6	116	0.9304
Levene	0.65279	6	116	0.6878
Bartlett	0.51139	6	.	0.8002
Welch ANOVA	0.42099	6	7.899	0.84

Relationships Between Somatization,

Alexithymia and Dissociation

Since 1967 research attempts to link alexithymia and somatization in a causal way have not been successful. A well constructed ten year study (Greenberg and Dattore, 1983) found no correlation between alexithymia and subsequent somatization.

In 1977 Freyberger coined the terms primary alexithymia and secondary alexithymia to differentiate between two types of alexithymia : primary alexithymia seems to be a native personality style while secondary alexithymia develops in response to stress or trauma. He suggests that it may be more possible to move secondary alexithymics, than primary alexithymics. out of an alexithymic stance with therapy No work has been reported partitioning primary and secondary alexithymia within individuals or across populations. My own belief is that the clinical and personality features attributed to alexithymia are mostly if not entirely dissociative responses to trauma. In other words I believe that while some persons may be more emotionally expressive than others as a native personality style, most if not all persons who meet substantial criteria for Alexithymia are what Freyberger would call secondary Alexithymics.

The DSM IV description of somatization describes somatizers as frequently demonstrating dissociative symptoms. Dissociation is a defense mechanism used to avoid the pain of overwhelming trauma (Herman 1992 ; Kaplan and Sadock 1985, McWilliams 1994; Putnam 1989, Spiegel 1994). As a defense against the pain of trauma, secondary alexithymia would appear to separate a person not only from the ability to feel emotion, but also from the ability to dream and fantasize. Shipko, Alvarez, and Noviello (1983) showed that the emotional numbing of Vietnam veterans with post traumatic stress disorder strongly resembles alexithymia. Cassidy, McNally and Zeitlin, (1993) compared 3 groups of women: those who had been raped and showed signs of PTSD, those who had been

raped and showed no signs of PTSD, and those who had never been raped and showed no signs of PTSD. Rape victims were more alexithymic than were comparison subjects, and subjects with a history of more than one rape were more alexithymic than those with a single episode. McNally and Cassiday suggest that alexithymia does not necessarily develop in response to a single traumatic event, but rather results from repeated exposure to extreme stress. This pattern sounds very similar to that of dissociation.

Parker, Taylor, and Bagby (1993) compared the emotional processing capacities of alexithymic and non alexithymic undergraduates using a modified Stroop task in which subjects named the colors of neutral words, arousal words and baseline stimuli. Both alexithymic and non alexithymic individuals took longer to name the color of emotion laden words than neutral words, but the alexithymics took more time than the non alexithymics.

Cooper and Holstrom (1984) showed that somatizers display more alexithymic characteristics than non somatizers. This research does not demonstrate causation. In persons with somatization disorder the alexithymic characteristics might be a) innate, or b) might be a response to trauma experienced before the onset of the physical symptoms, or c) might be a response to the pain and disability of the illness itself. Taken together with Greenberg and Datore's (1983) study which found no correlation between level of alexithymia and subsequent somatization, Cooper and Holstrom's (1984) research suggests that although some degree of alexithymia may be innate, alexithymia increases with the stress of being physically ill, including apparent somatizing.

Wise, Mann, Mitchell, Hryniak, and Hill (1990) failed to find a correlation between alexithymia and self reported mood, and found a correlation between alexithymia and lowered quality of life.

Alexithymia has been reported as a predictor of therapy treatment outcomes. Sifneos (1972, 1973, 1975) reports that alexithymics tend to not respond well to insight oriented therapies. He reports data to suggest that they do much better with cognitive and

behavioral approaches. He further reports that alexithymics treated with insight oriented therapies tend to become either frustrated or confused. Other writers, notably Benedetti (1983), describe alexithymia as a transitory phase which can always be understood and treated through psychoanalysis. A reason for this apparent disparity may be that Sifneos is looking at shorter term therapy and Benedetti at very long term therapy. What may be happening with the short term treatment of Alexithymics is that their lack of affect represents unconscious, fear based, emotional distance which is too great to bridge in a few sessions. More time would be required to establish rapport and a sense of safety in the therapeutic relationship. These clients can learn some coping skills on a cognitive and behavioral level in a short series of sessions.

Based on my years of clinical experience and my reading of the literature, I believe that most alexithymia is secondary, that is, a response to stress or trauma, rather than an inborn personality style. I view alexithymia as a dissociative response, separating a person from painful feelings. 'Dis-associate' implies a breakdown of relatedness, in this case a reduction of communication between parts of the person. For example, we know from REM sleep studies that all persons dream, yet alexithymics are separated from their memories of dreaming.

Some researchers have described alexithymia as a disconnection syndrome; indeed, patients with surgical commissurotomies display more alexithymic characteristics (Tenouten, Hoppe, Bogen and Walter, 1985 a, b). This research, however, leaves open the question of the relative contributions to elevated alexithymia scores of 1) the cerebral disconnection 2) the stress of the commissurotomy surgery, and 3) the conditions for which the commissurotomy was performed. In most alexithymics organic pathology is not reported. I believe that the disconnection in alexithymia is more closely akin to dissociation than to an organic lesion.

If alexithymia is shown to be a variant of dissociation, one would expect alexithymics to show elevated levels of other dissociative experiences such as amnesia, depersonalization, and derealization. Such findings may lead to improved treatment for persons identified as alexithymic, whether or not they are somatizers. Treatment methods which are useful with other dissociative disorders could be tried with these clients.

CHAPTER III HYPOTHESES

Hypothesis 1:

The level of subject endorsement of alexithymic characteristics on the Toronto Alexithymia Scale will be positively correlated with endorsement of dissociative experiences on the Dissociative Experiences Scale-II.

Hypothesis 2:

2a. The DES scale for amnesic experience will correlate positively with each of the three TAS subscales for lack of dream recall, difficulty identifying feelings, and difficulty communicating feelings. All of these scales tap ‘not knowing about things’.

2b. The DES scale depersonalization/ derealization will correlate positively with the TAS scales for difficulty identifying feelings, and difficulty communicating feelings. If a person is “outside oneself” it is harder to know how one feels.

2c. The DES scale for imaginative absorption will correlate positively with the TAS scales for difficulty identifying feelings, and difficulty communicating feelings. The items in the DES scale for imaginative absorption point to a pattern of using imagination to avoid affect

2d. The DES scale for imaginative absorption will correlate negatively with the TAS

scales for denial of day dreaming. People who are absorbed in imagination would report daydreaming.

2e. The DES scale for imaginative involvement will correlate negatively with the TAS scale for external focus. Persons who are imaginatively absorbed spend time inside, not outside.

In graphic form, here is what I expected to find as correlations between the major categories and their subscales:

Table 1. Predicted Correlations Between the Subscales of the TAS and the DES

DISSOCIATION	Difficulty Identifying Feelings	ALEXITHYMIA		
		Difficulty Communicate Feelings	Poverty of Daydreaming	External Focus
Amnestic Experience	+	+		
Depersonalization Derealization	+	+		
Imaginative Absorbtion	+	+	-	-

Hypothesis 3:

High TAS will be associated with high DES; low TAS is not necessarily associated with low DES. In this situation we would expect the cell containing subjects who are high TAS, low DES to be by far the least occupied of the four cells. In contrast if this is a simple positive correlation both the cells high DES, low TAS and High TAS, low DES should be substantially lower than the other two cells. High and low scores are defined as those above and below cutoff scores for each instrument.

CHAPTER IV

METHOD

Subjects were presented with two instruments, the TAS and the DES-II. The two instruments were presented in counterbalanced order. Subjects were tested in small groups in a small, well lighted room. The experimenter presented the materials and was present in the room throughout the testing period to provide assistance. A debriefing was provided a debriefing at the conclusion of each experimental session.

Sample

University of Oregon student subjects were recruited through advertisement in the campus newspaper and fliers on campus bulletin boards. A sample of 124 subjects was obtained, with a mean age of 23.7 years (s.d.=5.6), each subject received a payment of five dollars for participation in this experiment. Approval was obtained from the University Of Oregon committee for the protection of human subjects. All guidelines for the protection of subjects were followed.

Scoring of Instruments

Toronto Alexithymia Scale (TAS)

The following items are negatively keyed: 1,5,6,9,11,12,13,15,16,21,24. To obtain total score the negatively keyed items are reversed (ie. a rating of 1 become scored 5,

2=4, 3=3, 4=2 and 5=1), then sum all items and this equals the score. Subscales may be scored separately.

Table 2. Subscales of the Toronto Alexithymia Scale

Factor 1	Difficulty identifying feelings:	1,4,8,10,12,14,17,20,22,25,26
Factor 2	Difficulty communicating feelings:	3,6,8,9,12,22,23
Factor 3	Poverty of daydreaming:	2,5,15,16,18
Factor 4:	External Focus:	7,11,13,19,21,24

Dissociative Experiences Scale-II (DES)

To score the DES-II sum all items. Subscales may be scored separately.

Table 3. Subscales of the Dissociative Experiences Scale

Factor 1	Amnestic dissociation:	3,4,5,6,8,10,25 and 26
Factor 2	Depersonalization and derealization:	7,11,12,13,27 and 28
Factor 3	Absorption and imaginative involvement:	2,14,15,16,17,18,20,22, 23

CHAPTER VI

SUMMARY OF FINDINGS AND CONCLUSIONS

Discussion of Results

Prior to testing the formal hypotheses the integrity of the data set was examined in terms of English vs. non native English speakers, test order, and gender. The fact that no difference was found for native language, or gender gives broader generalizability to the results.

A possible discontinuity in the data set did emerge in the course of hypothesis testing. Even though comparison of the descriptive statistics of the gender subgroups suggested homogeneity, comparison of interscale correlations showed a gender difference. Positive correlations of modest strength were found for the whole sample (+.32), for male subjects (+.47) and for female subjects (+.21).

The correlations between the subscales of the two instruments give more information about possible relationships between the two instruments. As an aid to understanding the correlations between the subscales of the two instruments it is useful to compare them to other sets of numbers reported in the literature: 1) the amount of variance accounted for by each subscale and 2) the correlations between scales within each instrument Information.

Table 9. Variance Accounted for by Each Subscale.

DES scales		TAS Scales	
18%	Absorption and Changeability	12.3%	Difficulty identifying feelings
13%	Derealization	7.0%	Difficulty communicating feelings
9%	Amnestic experience	6.4%	Poverty of daydreaming
		6.1%	External focus

Information in this table, about the DES, is from Carlson et. al. (1991), and Carlson and Putnam (1992) Information about the TAS is from Taylor Ryan, and Bagby (1985).

Table 10. Pearson Correlation Coefficients Between Subscales of the TAS

	TAS Subscales			
	Identify Feelings	Communicate Feelings	Daydreaming poverty	External Focus
Identify Feelings	-	0.55	-0.22	0.24
Communicate Feelings		-	0.01	0.28
Daydreaming Poverty			-	0.08
External Focus				-

These TAS subscale correlations are as reported by Taylor Ryan, and Bagby (1985).

Table 11: Pearson Correlation Coefficients Between Subscales of the DES

	DES subscales		
	Absorbtion & Changeability	Derealization	Amnestic experience
Absorbtion & Changeability	-	0.73	0.58
Derealization		-	0.51
Amnestic Experience			-

These subscale correlations are as reported by Carlson et. al. (1991), and Carlson and Putnam (1992)

To facilitate the readers integration of this information the correlations between subscales of the two instruments calculated in the present research are restated here:

Table 12. Pearson Correlations Between Subscales of the TAS and the DES

DES scales	TAS scales			
	Identify Feelings	Communicate Feelings	Daydreaming Poverty	External Focus
Amnestic experience	0.38***	0.26**	(-0.08)	(0.10)
De-realization De-personalization	0.43***	0.31***	(-0.24 **)	(-0.12)
Imaginative Absorption	0.49***	0.35***	-0.33***	0.05

In each cell: *= significant at .05, **= significant at .01, ***= significant at or below .001. Entries in parentheses two tailed post hoc tests for which there was no predicted direction of correlation.

Several features of the TAS and DES and the relationships between these two instruments emerge from comparing the information in these four tables.

- a) The internal consistency of the TAS is much weaker than that of the DES. The correlation between the TAS scales for difficulty identifying feelings, and difficulty communicating feelings is good, however all of the other correlations between scales of this instrument are poor, including a negative correlation between the factors difficulty identifying feelings, and poverty of daydreaming.
- b) The internal consistency of the DES is quite good with correlations ranging from .51 to .73.
- c) The strongest factor of the TAS correlates best with the least strong factor of the DES. All of the factors of the DES correlate well with the two strongest factors of the TAS, and poorly or negatively with the two least strong factors of the TAS.

A / lexi / thymia means no words for feelings. In his Alexithymia construct Sifneos associated two other features with this difficulty of recognizing and naming feelings; poverty of daydreaming, and a concrete thinking style. All four of these dimensions are represented in the subscales of the TAS, however the empirical correlations between these subscales suggest that only the first two, difficulty recognizing feelings, and difficulty describing feelings really belong together. Of the other two subscales, poverty of dreaming is negatively correlated with difficulty recognizing feelings, and external thinking is only weakly correlated with the other scales.

The subscales of the DES, on the other hand are robustly correlated with each other. Further, all of the subscales of the DES correlate positively with the TAS subscales difficulty recognizing feelings and difficulty describing feelings. The TAS subscale poverty of dreaming correlates negatively not only with the first factor of the TAS, but with all subscales of the DES.

The TAS appears to be a grab bag of poorly related subscales. The DES which has good internal consistency correlates positively with the TAS as a whole, and most strongly with the two factors of the TAS which correlate best with each other and which define the Alexithymia construct.

The DES appears to measure substantially the same thing as the core concept measured by the TAS. The inability to recognize or name feelings as described in the alexithymia construct appears to be a dissociative phenomenon.

The correlation coefficient is an imperfect test of this subset relationship since it does not take into account the difference between high TAS scores and low TAS scores in their relationship to DES scores. High TAS scores are related to high DES scores, but low TAS scores are not related with DES scores. The relationship between these two constructs is stronger than is demonstrated by the correlation coefficient.

The results of hypothesis three show that 75% of the subjects who score above the TAS cutoff score are also above the DES cutoff score. This lends support to the idea that alexithymia is largely a variety of dissociation.

The correlations, and in some cases the lack of correlations between the subscales of these two instruments sheds new light on two other alexithymia assessment instruments. The BIQ which deals only with the affective components of alexithymia may have more merit than previously realized. Also the TAS-R which has a 2 factor structure with no overlap may warrant a new look.

Summary

The results of this research support the idea that there is relationship between Alexithymia and Dissociation. The subscale correlations are suggestive about the nature of this relationship. It remains for future research to further explore this relationship.

Future Research

I. The alexithymia construct was originally put forward as an inborn personality style which is a predisposing factor for somatization disorder. Research has not supported this relationship (Demers-Desrosiers, 1983). Indeed the relationship between Alexithymia and Somatization is tenuous.

Briquet's list of 59 symptoms which are common among somatizers has been made into an instrument called the symptom checklist (SC). I hypothesize that 1) scores on the SC will correlate positively with TAS scores, 2) scores on the SC will correlate positively with DES scores, and 3) the correlation between the SC and the DES will be stronger than the correlation between the SC and the TAS.

II. Attempts to empirically derive an MMPI correlate for measures of Alexithymia have not been successful. These attempts were made with non clinical populations. The MMPI is designed to illuminate pathology. Alexithymia in and of itself is not a pathology, it is a personality style, therefore TAS scores from nonclinical populations would be expected to correlate with non pathological personality instruments such as the 16PF. It should be possible to predict correlations between the 16 scales of this instrument and both TAS whole scores, and TAS subscale scores.

III. Since the first two subscales of the TAS, difficulty identifying feelings, and difficulty communicating correlate well with each other and with all of the subscales of the DES it would be worth trying out an item pool which is the union of the items in these two TAS scales and all of the DES items. With field trial winnowing this item pool might yield a new four factor version of the DES which would include difficulty recognizing and communicating feelings as another way of being dissociative. This might improve the power of the DES as a screening instrument for dissociative disorders.

IV. perform research similar to the present work correlating the results of other Alexithymia assessment instruments the APQR, and the TAS-R, to see if they show similar correlations with dissociation.