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The Assessment of Alexithymia in Medical Settings: Implications for Understanding and Treating Health Problems

Mark A. Lumley, **Lynn C. Neely**, and **Amanda J. Burger**
Department of Psychology, Wayne State University.

Abstract

The construct of alexithymia encompasses the characteristics of difficulty identifying feelings, difficulty describing feelings, externally oriented thinking, and a limited imaginal capacity. These characteristics are thought to reflect deficits in the cognitive processing and regulation of emotions and to contribute to the onset or maintenance of several medical and psychiatric disorders. This article reviews recent methods for assessing alexithymia and examines how assessing alexithymia can inform clinical practice. Alexithymia is associated with heightened physiological arousal, the tendency to notice and report physical symptoms, and unhealthy compulsive behaviors. Alexithymic patients may respond poorly to psychological treatments, although perhaps not to cognitive-behavioral techniques, and it is unclear whether alexithymia can be improved through treatment. Interpretive problems regarding alexithymia include its overlap with other traits, whether it is secondary to illness or trauma, the possibility of subtypes, and low correlations among multiple measures. Nonetheless, we encourage the assessment of alexithymia in applied settings.

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Two Brief Cases

Mr. A., a 50-year-old, obese man with hypertension, was referred by his physician for psychological assessment after the patient experienced an atypical panic attack in the clinic waiting room. The patient reported that the walls seemed to close in, and the voices of the other patients became a buzz. He reported experiencing no fear or apprehension, mental images, or fantasies associated with the event, and he could identify no precipitants other than the waiting room. The man was well-educated and married, but he had few close friends, was compulsive and detail-oriented, and had difficulty taking others' perspectives. He displayed little emotion other than mild irritability. He showed minimal insight into his feelings or psychological life, and he focused primarily on external factors (e.g., the weather, light, diet, job, his wife) as potential symptom triggers. Psychotherapy was rather boring and ended some months later with little progress, even though the patient reliably attended all sessions and even took notes.

Ms. B., a 45-year-old woman, was referred by her physician for treatment of the chronic pain condition, fibromyalgia, as well as other health problems, including irritable bowel syndrome and depression. When emotional topics such as her punitive childhood were explored in therapy, Ms. B expressed facially and nonverbally various negative emotions, particularly sadness, shame, and fear, but she had difficulty labeling her feelings and linking them to her psychological experience and memories. In particular, she had difficulty identifying anger—indeed, she was surprised when a chiropractor told her how much "anger" she carried in her

Correspondence concerning this article should be addressed to Mark A. Lumley, Ph.D., Department of Psychology, Wayne State University, 5057 Woodward Ave., 7th Floor, Detroit, Michigan 48202. Phone: 313-577-2838. mlumley@wayne.edu.

muscles. When her negative feelings became intense, she typically shifted focus to her body and talked only of somatic pain rather than emotional pain. Interestingly, she was very attuned to and concerned about others' feelings, including those of the therapist, and appeared to accurately identify the feelings of others. Therapy proceeded slowly over several years, but rapport was easily established, the therapeutic alliance was quite strong, and the patient eventually showed some gains. Behavioral exercises, particularly assertiveness training regarding communicating with family, and experiential exercises designed to help her access and then verbally express anger led to some improvement in pain and dysfunction.

History and Definition of the Alexithymia Construct

These two patients, who were seen by the first author in his clinical practice, have relatively high levels of alexithymia. The term alexithymia literally means "lacking words for feelings" and was coined to describe certain clinical characteristics observed among patients with psychosomatic disorders who had difficulty engaging in insight-oriented psychotherapy (Sifneos, 1967). Alexithymic patients demonstrate deficiencies in emotional awareness and communication and show little insight into their feelings, symptoms, and motivation. When asked about their feelings in emotional situations, they may experience confusion (e.g., "I don't know"), give vague or simple answers ("I feel bad"), report bodily states (e.g., "my stomach hurts"), or talk about behavior ("I want to punch the wall."). Such patients in psychodynamic psychotherapy have been described as unproductive, unimaginative, boring, and stiff. Therapists often have difficulty establishing working alliances with them, and such psychotherapy appears to lead to little benefit.

The alexithymia construct was originally conceptualized by Nemiah, Freyberger, and Sifneos (1976) as encompassing a cluster of cognitive traits including difficulty identifying feelings, difficulty describing feelings to others, externally oriented thinking, and a limited imaginal capacity. This original view of alexithymia has been the most influential in contemporary theory and research (Taylor, Bagby, & Parker, 1997). An alternative conceptualization, that alexithymia is a global impairment in emotional processing resulting in limited emotional expression and recognition (Lane, Sechrest, Riedel, Shapiro, & Kaszniak, 2000), hase been less influential thus far. Yet, both definitions agree that alexithymia is a deficit, inability, or deficiency in emotional processing rather than a defensive process, and this deficit view is gaining increasing support from basic laboratory research. For example, alexithymic people showed reduced affective priming when presented an initial facial expression followed by a verbal target (Vermeulen, Luminet, & Corneille, 2006), and they showed impaired ability to detect negative emotion in facial expressions, particularly under time challenged conditions (Parker, Prkachin, & Prkachin, 2005). Evidence from brain imaging studies indicates that alexithymic people have reduced brain activity in regions of the cingulate cortex during emotional imagery or induction (Kano et al., 2003; Mantani, Okamoto, Shirao, Okada, & Yamawaki, 2005).

Other psychological constructs seem similar to alexithymia and may be confused with it. Although a full presentation of these other constructs is beyond the scope of this paper, we briefly describe several and contrast them with alexithymia. Some constructs represent emotional skills, abilities, or strengths, rather than deficits or limitations. For example, emotion regulation is broader than alexithymia and refers to a wide range of processes, including being aware of emotions, accessing and expressing emotions, and monitoring and controlling emotions (Dahl, 2003). Emotion regulation is so broad that it is difficult to define, and there are no assessment devices that capture the full range of emotion regulation processes. Emotional intelligence also is broader than alexithymia, and the leading theorists propose four characteristics: perceiving emotions in others, using emotions to facilitate thought, understanding emotions, and managing emotions (Mayer, Salovey, Caruso, & Sitarenios,

2001). Whereas alexithymia refers to basic emotion processes, emotional intelligence refers more to the application or implications of such basic emotional abilities. Other constructs are narrower in scope than alexithymia, including emotional awareness (Lane & Schwartz, 1987), emotional approach coping (Stanton, Danoff-Burg, Cameron, & Ellis, 1994), and meta-mood skills (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995). These constructs typically exclude the cognitive aspects of alexithymia, (limited imaginal ability and externally oriented thinking), are newer on the psychological landscape than alexithymia, and have generated little literature relevant to their assessment in medical or mental health settings.

Several other emotion-related constructs are sometimes confused with alexithymia. Emotion suppression, inhibition, isolation, denial, and repression—like alexithymia—imply limited emotional insight and expression. Yet these constructs refer to active, defensive processes that reduce the experience or expression of emotion, whereas alexithymia is considered to be a deficit or deficiency rather than a defense. Defenses have long been the focus of psychodynamic and experiential psychotherapies, which attempt to lower or bypass them in order to facilitate emotional awareness and expression. Finally, low psychological mindedness overlaps with alexithymia (Shill & Lumley, 2002), but psychological mindedness places less emphasis on emotion than does alexithymia. The current review article will focus only on alexithymia, for which a very large literature has been generated, particularly in medical and psychiatric contexts.

The Assessment of Alexithymia

The most common approach to assessing alexithymia in applied settings is clinical judgment, and the two cases presented above were judged to be alexithymic during the course of psychotherapy. Yet, this time-worn clinical practice is of dubious psychometric quality, given that the interactions with the patient and the observations are not standardized, there are no criteria to define alexithymia and distinguish it from other constructs, and interrater reliability is unknown. Advancements in both research and clinical practice call for a more psychometrically sound approach.

A number of alexithymia assessment methods have been developed over the past 30 years, and a substantial portion of the growing alexithymia literature (totaling over 1400 articles at this time) addresses the development and validation of measures. Several comprehensive and critical reviews of alexithymia measures have been published, covering the first two decades of alexithymia research (Linden, Wen, & Paulhaus, 1994; Taylor, Bagby, & Luminet, 2000; Taylor et al., 1997), and we refer the reader to them. Here, we focus on recent developments in alexithymia assessment, particularly during the last decade. We present measures according to the type of assessment method used—interview-based, collateral informant, projective testing, verbal responses, and self-report—and provide information on their psychometric status and utility. At the end of the article, we revisit alexithymia measurement as we explore several controversial and emerging issues.

The original method of assessing alexithymia was to make judgments after clinical interviews, and there are three interview-based alexithymia assessment approaches in current use. First, several decades ago, Sifneos (1973) recognized the need to rate alexithymia reliably and created the Beth Israel Hospital Questionnaire (BIQ), which consists of items that are rated dichotomously by a clinician. This measure was subsequently modified to become a 12-item rating scale that assesses both the lack of emotional awareness and the tendency for operational thinking (Bagby, Taylor, & Parker, 1994). Several studies have used the original or modified BIQ as the criterion against which other alexithymia measures have been validated, perhaps because the BIQ captures the original, clinically-based manifestations of alexithymia (Bagby, Taylor, et al., 1994; Haviland, Warren, Riggs, & Nitch, 2002). Yet, the BIQ is not widely used,

probably because of the challenges of training, the time needed for an interview, the lack of a standardized interview to elicit the information, and problems in obtaining acceptable interrater reliability.

Second, an international group of psychosomatic researchers developed the Diagnostic Criteria for Psychosomatic Research (DCPR), which consists of a structured interview and diagnostic criteria for a number of psychosomatic syndromes, including alexithymia. Research has shown that the "diagnosis" or classification of alexithymia can be made with high interrater reliability (Galeazzi, Ferrari, Mackinnon, & Rigatelli, 2004), that it correlates well self-reported alexithymia (Porcelli & De Carne, 2001), and that it predicts treatment non-improvement in patients with functional gastrointestinal disorders (Porcelli, De Carne, & Todarello, 2004). At this early stage of research, it is unclear whether this measure is valid enough to serve as a sole measure of alexithymia, but clinicians may find the DCPR to be a useful alexithymia screening instrument.

Third, the Toronto group recently developed a standard set of items to rate alexithymia in an interview-based format. The 24-item Toronto Structured Interview for Alexithymia (TSIA; Bagby, Taylor, Parker, & Dickens, 2006) has a four-factor structure and correlates modestly with self-reported alexithymia (r = .36). It will be interesting to see whether this new interview-based measure of alexithymia becomes more widely used than the original BIQ, or whether the demands of training, administration time, and obtaining reliability also limit its use.

A different approach to assessing alexithymia is to obtain reports or ratings of collaterals or significant others. The 33-item Observer Alexithymia Scale (OAS; Haviland, Warren, & Riggs, 2000) was developed on the assumption that alexithymia manifests in features—lack of insight, distance, somatizing, lack of humor, ridigity—that can be reliably reported by those who know the target person well, such as family members, friends, or therapists. This measure has been shown to correlate highly with the modified BIQ (r = .69) when both measures were completed by the same therapists about the same patients (Haviland, Warren, Riggs, & Nitch, 2002), and it also differentiates clinical from non-clinical cases (Haviland, Warren, Riggs, & Gallacher, 2001) and predicts a lack of interference on the emotional Stroop Test (Mueller, Alpers, & Reim, 2006). Generally, however, this relatively new measure has not been widely tested, so its validity for predicting criteria of clinical relevance is unknown. Furthermore, one might argue that the scale assesses some features that are not part of the core of alexithymia, but rather are observed behaviors that are correlated with alexithymia, such as lack of humor, somatizing, and rigidity. Nonetheless, because reports of collaterals about patients' emotional functioning are readily available and are sometimes stronger predictors of clinically relevant outcomes than are patients' self-reports, it will be important to test the concurrent and predictive validity of the OAS in clinical practice.

In addition to interview-based or collateral ratings of alexithymia, indices from projective tests, particularly the Rorschach Inkblot Test, have been explored as measures of the alexithymic deficits in imagination, creativity, symbolism, and affect regulation. Several indices from the Exner system have been proposed, such as low response productivity and low human movement suggesting poor fantasy ability, low numbers of blends suggesting concrete thought, and limited use of color indicating reduced affectivity. A few studies have found that these indices are related to illness (Acklin & Alexander, 1988; Acklin & Bernat, 1987) and obesity (Clerici, Albonetti, Papa, Penati, & Invernizzi, 1992). More recently, Porcelli and Meyer (2002) furthered this line of Rorschach research and demonstrated that alexithymic participants (as identified by self-report) were more likely to show an impoverished fantasy life, poorly adapted emotional expression, poor coping resources, concrete and stereotypical thinking, and social conformity with compromised relationships. Tibon, Weinberger, Handelzalts, and Porcelli (2005) also explored the "collapse of potential space" on the Rorschach using a new

reality-fantasy index and found modest, positive associations of this index with self-reports of alexithymia.

Another approach to assessing alexithymia is to sample a person's verbal responses to emotionally provoking situations. An increasingly used measure is the Levels of Emotional Awareness Scale (Lane, Quinlan, Schwartz, Walker, & Zeitlin, 1990), in which participants write responses to 20 interpersonal scenarios that would typically elicit affect. Responses are coded based on a neo-Piagetian affective developmental scheme in which a lack of emotional answers obtain few points, basic emotions yield more points, and blends of emotions and differentiation of self from other yield the highest points. The LEAS has been tested in a number of experimental studies and predicts emotion-related criteria, such as the ability to identify emotions and physiological and brain activation in response to emotional stimuli (Lane, Kivley, Du Bois, Shamasundara, & Schwartz, 1995; Lane et al., 1998; Lane et al., 1996; Suslow, Junghanns, Donges, & Arolt, 2001). Recent studies also suggest that it predicts clinical improvement of psychosomatic patients in psychodynamic treatment and differentiates eating disordered patients from healthy people, independent of negative affect (Bydlowski et al., 2005; Subic-Wrana, Bruder, Thomas, Lane, & Kahana, 2005). Although the construct measured by the LEAS may be partially independent from alexithymia, it appears that the LEAS has some clinical validity.

By far, self-report is the most widely-used approach to assessing alexithymia. The Toronto group developed a 26-item self-report scale, the Toronto Alexithymia Scale (Taylor, Ryan, & Bagby, 1985), and later, a 20-item revision, the TAS-20 (TAS-20; Bagby, Parker, & Taylor, 1994). The TAS-20 assesses three facets of alexithymia: difficulty identifying feelings, difficulty describing feelings, and externally oriented thinking. Although alexithymia scores are continuous, this measure has an empirically-derived cut score that identifies people who are alexithymic. The TAS-20 has been the most widely used measure in alexithymia research, and a wealth of data have been accumulated supporting its validity to predict both basic emotional processes as well as clinical criteria. The combination of extensive validation, brevity, ease of use, and the ability to compare across studies when using a common measure has led the TAS-20 to become the dominant alexithymia measure in the literature. A newer self-report measure, the Bermond-Vorst Alexithymia Scale (BVAQ; Vorst & Bermond, 2001) covers many of the same characteristics as the TAS-20, but the authors purport that it also assesses “emotionalizing,” or whether a person is emotionally aroused by emotion-inducing events. Although the BVAQ correlates moderately with the TAS-20 (Morera, Culhane, Watson, & Skewes, 2005), very little research exists on the BVAQ, and its validity is not known.

Although there is ongoing debate about the comparative validity of various alexithymia assessment approaches, the vast majority of studies have used only the TAS or TAS-20. Thus, as we evaluate alexithymia assessment in medical and mental health settings, a debate over specific measures is largely moot. Instead, we turn to our primary goal of this article, which is to answer these applied questions: What does knowing that a patient is relatively alexithymic tell the medical or mental health practitioner about the patient? Of what utility is the assessment of alexithymia in health care settings?

The Utility and Validity of Assessing Alexithymia in Medical settings

Alexithymia was first described in people with classic psychosomatic disorders, and subsequent research has confirmed elevated levels of alexithymia in people with rheumatoid arthritis, essential hypertension, peptic ulcer, and inflammatory bowel disease (Taylor et al., 1997). Yet, studies have found elevated alexithymia in patients with a range of other conditions, including irritable bowel syndrome, cardiac disease, non-cardiac chest pain, breast cancer,

diabetes, morbid obesity, chronic pain, eating disorders, substance dependence, pathological gambling, kidney failure, stroke, HIV infection, fibromyalgia, panic disorder, post-traumatic stress disorder (PTSD), erectile dysfunction, low sperm counts, chronic itching, and more. The growing recognition that alexithymia is not specific to psychosomatic disorders has led to the view of alexithymia as a risk factor for those medical, psychiatric, or behavioral problems that are influenced by disordered affect regulation (Taylor et al., 1997). Alexithymia is associated with a failure to use adaptive affect regulation processes such as modulating arousal, appropriately expressing or suppressing emotions, employing fantasy, obtaining and using social support, tolerating painful emotions, cognitive assimilation, and accommodation. By hindering these processes, alexithymia is hypothesized to be one of several factors that contribute to various physical and mental health problems, including undifferentiated negative moods such as depression and anxiety, compulsive or addictive behaviors, heightened or prolonged physiological arousal, physical symptoms, and potentially somatic disease (Taylor et al., 1997). In an earlier article Lumley, Stettner, and Wehmer (1996) described several processes or mechanisms by which alexithymia may influence health and illness, including changes in physiological systems (e.g., autonomic, immune, endocrine), health behavior, cognitive processes (e.g., attributions, appraisals), and social relationships (e.g., social support, social models). The current paper complements and updates that earlier review.

In this article, we examine five domains of clinical interest that may be informed by the assessment of patients' level of alexithymia: pathophysiology and somatic disease, symptom presentation, maladaptive behavior, response to treatment, and the possibility of reducing alexithymia. In the following sections, we critically examine the literature of each domain. Table 1 summarizes our interpretations of the literature for these five domains along with limitations of those interpretations.

Does Alexithymia Contribute to the Etiology or Pathology of Somatic Disease?

A leading theory is that the alexithymic person's failure to regulate negative emotions results in altered autonomic, endocrine, and immune activity, thereby producing conditions that are conducive to the development of somatic disease, although the specific disease that develops is determined by other factors (Taylor et al., 1997). What is the evidence for this theory? Studies of alexithymia and physiological processes are of two types—immune function and psychophysiologic activity (Guilbaud, Corcos, Hjalmarsson, Loas, & Jeammet, 2003).

The few immune studies that are available have found that alexithymia is associated with poorer immune status. One study found reduced cytotoxic lymphocyte counts in alexithymic compared to nonalexithymic men (Dewaraja et al., 1997), and another found that alexithymia was related to lower levels of interleukin-4 in women (Corcos et al., 2004). In two other studies, alexithymia was related to reduced lymphocyte levels and to the presence of precancerous cervical lesions among women undergoing diagnostic testing (Todarello et al., 1997; Todarello et al., 1994). These latter studies are particularly important because alexithymia was linked to both a potential physiologic mediating pathway (reduced lymphocytes) as well as a disease endpoint (precancerous cells) in people who were asymptomatic and unaware of their diagnosis.

Over a dozen studies have examined alexithymia and psychophysiology, particularly autonomic activity before and during laboratory stressors. A number of studies have found that alexithymia is related to higher levels of resting (tonic) sympathetic or cardiovascular activity (Friedlander, Lumley, Farchione, & Doyal, 1997; Fukunishi, Sei, Morita, & Rahe, 1999; Gundel et al., 2002; Henry et al., 1992; Infrasca, 1997; Stone & Nielson, 2001; Wehmer et al., 1995), although other studies have found no alexithymia effect on resting measures (Luminet, Rimé, Bagby, & Taylor, 2004; Newton & Contrada, 1994; Roedema & Simons, 1999; Waldstein, Kauhanen, Neumann, & Katzel, 2002). No studies, however, have shown that

alexithymia is associated with lower resting physiological activity. Most of these studies also have examined psychophysiological reactivity to various laboratory stressors. Although two studies have found that alexithymia, or at least some facet of it, predicts greater heart rate or blood pressure reactivity to stressors controlling for any baseline differences (Luminet et al., 2004; Waldstein et al., 2002), most studies suggest that there is either no effect of alexithymia on stressor reactivity beyond baseline effects (Friedlander et al., 1997; Fukunishi et al., 1999; Martinez-Sanchez, Ortiz-Soria, & Ato-Garcia, 2001), or that alexithymia predicts reduced stressor reactivity (Hyer, Woods, Summers, Boudewyns, & Harrison, 1990; Linden, Lenz, & Stossel, 1996; Newton & Contrada, 1994; Roedema & Simons, 1999; Wehmer et al., 1995; Zonnevylle-Bender et al., 2005). For example, in an anger recall task, alexithymia predicted attenuated heart rate, stroke volume, and blood pressure reactivity (Neumann, Sollers, Thayer, & Waldstein, 2004).

There are a number of limitations of these studies, however. The studies are limited to laboratories, and we do not know how alexithymia is related to psychophysiological activity in the natural environment. Also, it is possible that elevated resting sympathetic or cardiovascular arousal could result from adjustment to the novelty of the laboratory environment, or even to factors such as poorer aerobic conditioning or the use of arousing substances (caffeine or nicotine), which most studies do not assess or control. Also, the laboratory stressors that have been studied vary widely, and many are passive or contrived (e.g., viewing videos) rather than personally relevant stressors, which may yield different responses. Finally, different physiological measures yield different response patterns, particularly in response to different emotions, thus complicating interpretation of these studies further.

In summary, although the literature has limitations and the findings are not entirely consistent, there is some evidence that people with alexithymia have more resting sympathetic and cardiovascular arousal as well as impaired immune status than people without alexithymia. With respect to our two clinical cases described above, it is possible that Mr. A.'s hypertension and panic disorder and Ms. B.'s irritable bowel syndrome are influenced, in part, by alexithymia-induced physiological changes. Yet, whether resting elevations in physiological arousal result from the failure to regulate negative affect is not known, nor is it known whether such physiological arousal is of sufficient magnitude, duration, or frequency to contribute to clinical disorder. Also, there is little evidence that alexithymia is associated with hyperreactivity to stressors; rather, alexithymia is more often associated with hyporeactivity, further diminishing the possibility that alexithymia influences disease by directly altering autonomic activity.

Does Alexithymia Contribute to Symptom Reporting and Health Care Utilization?

Although there has been much interest in the possibility that alexithymia contributes to somatic disease, an alternative mechanism is that alexithymia influences illness behavior, particularly the experience and reporting of physical symptoms and seeking of treatment. The prolonged or heightened physiological arousal experienced by an alexithymic person might be experienced as aversive physical symptoms and reported as such. Relatedly, alexithymia may prompt a person to report only the undifferentiated physiological aspects of emotion but not the emotional label or the subjective, feeling aspects of emotion. Finally, alexithymia may prompt lead to somatosensory amplification, or the tendency to notice and be concerned about one's body, which can be intensified by the low-level negative mood that often accompanies alexithymia. All of these processes are sometimes considered aspects of “somatization.”

Many studies have found positive associations between alexithymia and symptom reports. A review of 18 samples found a mean correlation of $r = .23$ between alexithymia and somatic symptoms, and also found that alexithymia was more prevalent in people with somatoform

disorders than in healthy controls (De Gucht & Heiser, 2003). Several recent studies support this (De Gucht, Fischler, & Heiser, 2004a, 2004b; Wearden, Lamberton, Crook, & Walsh, 2005), although the effect may be stronger in clinical than in healthy populations (Karvonen et al., 2005). Of course, symptoms often accompany disease, and several studies have tried to separate the contribution of alexithymia to symptoms versus disease. For example, alexithymia is positively associated with reports of pain but not the presence of clinically-verified tissue damage (Glaros & Lumley, 2005; Miranda, Viikari-Juntura, Heistaro, Heliövaara, & Riihimäki, 2005). Similarly, alexithymia is related to subjective but not objective measures of health during blood donation (Byrne & Ditto, 2005), during testing for coronary artery disease (Kauhanen, Kaplan, Cohen, Salonen, & Salonen, 1994; Valkamo et al., 2001), and among HIV-positive patients (Lumley, Tomakowsky, & Torosian, 1997). These studies suggest that alexithymic patients may report symptoms but not necessarily have more somatic disease. This is consistent with Ms. B.'s reports of muscular pain and abdominal discomfort that was not commensurate with objective findings, and her use of somatic language to describe her feelings.

Increased symptoms in alexithymic people would be expected to prompt health care utilization, and several studies support this proposal. People who repeatedly used the emergency room for migraine headaches were more alexithymic than outpatients with migraines (Villani et al., 2005). Alexithymic men were more likely to report having been diagnosed with coronary heart disease but actually had less atherosclerosis than nonalexithymic men, suggesting that alexithymic patients were more likely to seek evaluations than to have diseased arteries (Kauhanen et al., 1994). Another study found that alexithymia was positively related to health utilization, at least among depressed patients (Joukamaa, Karlsson, Sholman, & Lehtinen, 1996).

The proposal that alexithymia drives the experience of symptoms and seeking of care rather than somatic disease may explain why some studies find similar levels of alexithymia among different patient groups, or between patients with “explained” versus “unexplained” symptoms (Kooiman, Bolk, Brand, Trijsburg, & Rooijmans, 2000; Posse & Haellstroem, 1998; Tojek, Lumley, Barkley, Mahr, & Thomas, 2000). Although not all studies support this view (Porcelli, Taylor, Bagby, & De Carne, 1999), this “care-seeking” perspective suggests that alexithymia may be overrepresented among those who report symptoms and seek health care, but alexithymia may not necessarily be linked to diseases or disorders. Note that both Mr. A. and Ms. B. were frequent health care users who were identified and referred by their physicians.

Does Alexithymia Contribute to Unhealthy Behavior?

Alexithymia also may contribute to poor health by prompting maladaptive or unhealthy behavior. Although behavior is influenced by many factors (e.g., environmental contingencies, modeling, attitudes), poor emotion regulation also may contribute to unhealthy behavior. For example, drug use and other compulsive actions may serve to modulate aversive arousal. Even behaviors such as safety, nutrition, or hygiene may be impeded by the failure to experience or recognize potentially adaptive feelings such as fear, guilt, or even self-pride.

There is consistent evidence that alexithymia is elevated in people with eating disorders (Beales & Dolton, 2000; Carano et al., 2006; Cochrane, Brewerton, Wilson, & Hodges, 1993; De Panfilis, Salvatore, Avanzini, Gariboldi, & Maggini, 2001; Kessler, Schwarze, Filipic, Traue, & von Wietersheim, 2006; Mazzeo & Espelage, 2002; Pinaquy, Chabrol, Simon, Louvet, & Barbe, 2003; Zonnevijlle-Bendek, van Goozen, Cohen-Kettenis, van Elburg, & van Engeland, 2002; Zonnevylle-Bender et al., 2004), problematic gambling (Lumley & Roby, 1995; Parker, Wood, Bond, & Shaughnessy, 2005), and alcohol and drug abuse or dependence (El Rasheed, 2001; Haviland, Hendryx, Shaw, & Henry, 1994; Kauhanen, Julkunen, & Salonen, 1992), although perhaps not cigarette smoking and nicotine dependence (Lumley, Downey, Stettner, Wehmer, & Pomerleau, 1994). One comprehensive study found that, compared with controls,

patients with eating disorders or alcohol- or drug-related disorders had similar, high levels of alexithymia, and a path analysis suggested that alexithymia predicted depression which predicted the addictive behavior in these disorders (Speranza et al., 2004). In addition, alexithymic people were found to have poorer nutrition and a sedentary lifestyle (Helmers & Mente, 1999) and a greater body mass index (Neumann et al., 2004). Alexithymia also is associated with a history of childhood maltreatment and subsequent self-injurious behavior (Paivio & McCulloch, 2004). Interestingly, alexithymia is related to less frequent sexual intercourse among women (Brody, 2003), thus possibly decreasing the risk of sexually transmitted diseases, although likely signaling interpersonal difficulties. Finally, an impressive, 5.5-year longitudinal study of 2297 middle-aged men found that alexithymia predicted increased risk of all-cause mortality, and the effect was even stronger for the risk of death due to injuries, suicide, or homicide, which suggests the importance of alexithymia-associated maladaptive behavior in these outcomes (Kauhanen, Kaplan, Cohen, Julkunen, & Salonen, 1996).

Thus, there appears to be substantial evidence that alexithymia is associated with addictive or compulsive behaviors and other unhealthy behaviors. These findings are consistent with our observation that Mr. A. was obese and quite compulsive, particularly with money. Yet, we know little about the relationship of alexithymia to behavior aside from studies of behavior disorders; it is important to study alexithymia and behavior in non-patient samples. Also, we do not know the degree to which compulsive and other unhealthy behaviors are elicited by poor affect regulation and by attempts to modulate arousal, although this is a reasonable hypothesis.

Does Alexithymia Influence Treatment Process and Outcomes?

The original clinical observations of the 1960s and 1970s were that alexithymic patients responded poorly to psychodynamic psychotherapy. Alexithymic patients were viewed as having trouble with key therapy tasks, including introspecting and directly communicating their feelings, recognizing psychological causes, and using mental and relational techniques to regulate affect. Also, alexithymic patients were thought to have difficulty developing an alliance with clinicians and possibly be less likely to engage in treatment recommendations.

In the past few years, researchers have turned their attention to studying how pre-treatment alexithymia predicts prognosis of patients in medical, psychiatric, or behavioral treatments. Alexithymia predicts poorer outcomes of treatment for anxiety and somatoform disorders (Bach & Bach, 1995), depression (Ogrodniczuk, Piper, & Joyce, 2004), alcoholism (Cleland, Magura, Foote, Rosenblum, & Kosanke, 2005; Loas, Fremaux, Otmani, Lecercle, & Delahousse, 1997), functional gastrointestinal disorders (Porcelli et al., 2003; Porcelli et al., 2004), and mixed psychiatric disorders (McCallum, Piper, Ogrodniczuk, & Joyce, 2003). Another study found that alexithymia predicted poorer outcomes of group psychotherapy for complicated grief, and this effect was mediated by the therapists' negative responses to alexithymic patients (Ogrodniczuk, Piper, & Joyce, 2005).

Some research has tested how alexithymia influences outcomes of written emotional disclosure or expressive writing, a technique in which people write for several days about stressful or traumatic experiences, including their deepest thoughts and feelings. Lumley, Tojek, and Macklem (2002) hypothesized that alexithymic deficits in introspection and emotional awareness interfere with written disclosure. In several samples, these authors reported that baseline alexithymia, or at least the facets of difficulty identifying feelings and externally oriented thinking, predicted poorer outcomes of disclosure. Two other studies, however, appear to report the opposite effect. One found that greater alexithymia (TAS-20 total), and specifically the difficulty describing feelings facet, predicted less post-surgical distress and quicker hospital discharge among patients undergoing bladder papilloma resection who wrote

about their feelings of being in the hospital (Solano, Donati, Pecci, Persichetti, & Colaci, 2003). The other study examined only this same TAS-20 facet, difficulty describing feelings, which predicted better affect at follow-up among disclosure writers (Paez, Velasco, & Gonzalez, 1999). In our view, these two studies probably found that the facet of difficulty describing feelings, which is related to inhibition and shame, predicted better outcomes following disclosure. In contrast, the full alexithymia construct is probably associated with poorer outcomes of emotional disclosure.

In contrast to the generally negative outcomes of alexithymic people in these treatments, there may be no influence, or perhaps even a positive influence, of alexithymia on behavioral treatments and adherence to treatment recommendations. Studies have found that alexithymia was unrelated to outcomes of inpatient therapy (Spitzer, Siebel-Jurges, Barnow, Grabe, & Freyberger, 2005), adherence to a recommendation to obtain therapy (Aarela, Saarijarvi, Salminen, & Toikka, 1997), or adherence in diabetes treatment (Friedman et al., 2003). Furthermore, baseline alexithymia was unrelated to outcomes of cognitive-behavioral therapy (CBT) of obsessive-compulsive disorder (Rufer et al., 2004), a behavioral psoriasis symptom management program (Fortune, Richards, Griffiths, & Main, 2004), and relaxation training (Friedlander et al., 1997). One study found that alexithymic patients were somewhat more likely to remain in group CBT for smoking cessation (Lumley et al., 1994), and another study found that alexithymia predicted better success in group CBT for substance use (Rosenblum et al., 2005). Interestingly, a study of women undergoing in vitro fertilization found that alexithymia predicted better outcomes of this treatment (Kakatsaki et al., 2004).

Thus, it appears that alexithymia is a negative prognostic indicator for many psychological treatments, particularly those focusing on insight, emotional awareness, and a close alliance with a therapist. In contrast, alexithymia may not affect more structured cognitive-behavioral treatments, and may even be associated with better outcomes of such treatments. Perhaps the compulsive nature and external focus of people with alexithymia prompt greater adherence to structured exercises and behavioral recommendations. It is noteworthy that Mr. A. had a relatively poor outcome of psychotherapy, in part because the therapist had difficulty developing an alliance with him, and in part because therapy focused on insight. Yet, Mr. A. was very reliable in attendance, took notes, and made efforts on the rare occasions when homework was prescribed, suggesting that a behavioral approach may have been more successful with him. Ms. B. also was challenging, but she responded best to the behavioral exercises of communication skills and assertiveness training. It should be noted, however, that most studies of alexithymia as a prognostic indicator of treatment outcome used unspecified and variable types of treatment (as is typical of real world practice). In addition, most studies did not consider or covary pre-treatment variables other than alexithymia, leaving open the possibility that a construct that correlates with alexithymia, such as poorer mental health in general, may be the true predictor of poorer treatment outcome.

Can Alexithymia Be Reduced?

Alexithymia appears to have negative health implications, either by altering physiology, prompting symptom reporting, supporting unhealthy and compulsive behaviors, or by interfering with response to some treatments. This raises the important question of whether it is possible to reduce alexithymia—to “treat” it—and if so, whether reductions in alexithymia will lead to improved health. These questions are of obvious value not only from a clinical perspective but also from a theoretical viewpoint, because one can demonstrate that a risk factor such as alexithymia actually contributes to health problems only by reducing or removing it and seeing whether health improves. Some studies have shown that alexithymia decreases over time during treatment of eating disorders (Becker-Stoll & Gerlinghoff, 2004; Clyne & Blampied, 2004; de Groot, Rodin, & Olmsted, 1995), yet, these interventions were not

attempting to reduce alexithymia directly, and the decrease in alexithymia may have been a reflection of reduced symptoms. Furthermore, these studies did not have control or comparison conditions to assess changes in alexithymia in the absence of treatment, or given a different treatment.

We know of only one controlled study that attempted to reduce alexithymia and test whether the reduction in alexithymia mediated the treatment's effect on health outcomes. Beresnevaite (2000) randomized 37 post-heart attack patients who had elevated TAS scores to either 4 months of weekly group therapy or two sessions of an educational control. Group therapy involved relaxation training, guidance in identifying and communicating feelings, imagery, music, and nonverbal emotional expression. Significant decreases in the TAS scores were found in the treatment group but not the control group, and the decreases in TAS scores predicted better cardiovascular disease outcomes 2 years later. In our view, this study provides strong support that alexithymia can be changed and that it truly is a risk factor for health problems. Yet, there is only one such study in the entire literature.

Summary: Interpreting High Levels of Alexithymia

In contrast to psychological constructs that are studied primarily in healthy populations, the alexithymia literature is noteworthy for a large number of clinically relevant studies. Nonetheless, little has been written about the value of assessing alexithymia in medical or mental health settings. Our literature review provides some conceptual guidance and empirically-grounded inferences that can be made about patients who are assessed as relatively alexithymic.

First, the construct of alexithymia provides a novel way to conceptualize the core problem of some patients with medical and psychiatric disorders. Traditionally, clinical psychology, psychiatry, and psychosomatic medicine have viewed a lack of emotional expression as due to the “neurotic” person's active defenses strategies, such as avoidance, inhibition, denial, or repression. This view is too restrictive, however, and leads to certain expectations about patients, their interactions with clinicians, and optimal treatment approaches. That is, defensive or avoidant patients are viewed as having the capacity for emotional insight and expression if only they would relinquish their defenses, perhaps with the help of a clinician's therapeutic alliance and accurate interpretations. In contrast, the construct of alexithymia provides an alternative way of conceptualizing emotionally non-expressive patients—that the patient has an emotional deficiency, limitation, or confusion rather than active avoidance. Although the classically defended person may benefit from interventions that identify defenses, encourage emotional expression, and provide insightful interpretations, the alexithymic person probably will not. Thus, one benefit of conceptualizing a patient as alexithymic rather than defensive is that clinicians can shift from frustrated to empathic and understanding. The belief that a patient remains defensive can lead to frustration because the patient is viewed as holding back or not trusting the therapist. In contrast, viewing the patient as someone who has difficulty—who “cannot” rather than “will not”—introspect, disclose, and emote may increase the clinician's empathy and allow alternative interventions to be explored.

Knowing that a patient is alexithymic also helps the clinician understand the patient's symptoms. Alexithymic patients tend not to use complex or nuanced emotional language but are more likely to express themselves in bodily symptoms or provide excessive details of their health, daily events, or actions. Such communication should not be viewed as a secondary gain strategy or avoidance of effort or commitment. Communication about one's pain and fatigue or the details of one's day should be viewed as valid attempts to describe one's phenomenal experience, which likely is more somatic or external than psychological.

There is growing evidence that alexithymia is related to impaired immune function, and some support that alexithymia is related to elevated resting sympathetic activity—although not necessarily to stressor hyperreactivity. Thus, it is possible that alexithymia contributes to the onset, exacerbation, or course of various diseases or syndromes that are worsened by poor emotion regulation (e.g., hypertension, irritable bowel syndrome, panic disorder). Yet, alexithymia should be considered one contributing factor to these disorders but certainly not the sole factor. It is probable that genetic dispositions related to the nervous system, environmental factors, behavior (e.g., diet, exercise), and social modeling and reinforcement also contribute to these conditions. Thus, we suggest that clinicians educate patients about the complex interplay of factors affecting their health, including the possibility that difficulty recognizing and expressing feelings results in impaired immune function and an overly active sympathetic nervous system, which can exacerbate symptoms and possibly disease.

Alexithymic people also tend to engage in unhealthy behaviors, particularly substance abuse, compulsive eating or dieting, and pathological gambling. Such behaviors might be conceptualized, in part, as the person's attempt to regulate a noxious, undifferentiated, physiologically aroused state. Life-threatening behavior may also be more common in alexithymic people. Feedback to the patient about the role of affect regulation in prompting these behaviors may begin the process of helping patients learn more adaptive strategies for affect regulation.

Alexithymia also may hinder the process and outcomes of many interventions for medical or psychiatric problems. Alexithymic patients respond less favorably or more slowly to various treatment approaches, particularly treatments that focus on insight, emotions, or relationships. This poorer response may result from difficulty adopting a psychological perspective of their problem and difficulties developing a therapeutic alliance, including negative responses from the treating clinician. Thus, clinicians should expect less progress when using traditional psychotherapeutic interventions with alexithymic patients.

It appears, however, that certain interventions may better “fit” the alexithymic style. First, alexithymia does not appear to impair adherence to behavioral prescriptions and may even enhance adherence. Furthermore, interventions that are externally-focused, such as contingency management, or that are relatively structured, such as many cognitive-behavioral therapies, may be better-suited to alexithymic patients than are insight-oriented, experiential, or relational therapies. We hypothesize that coping skills training, including techniques such as relaxation, pleasant activity scheduling, distraction, activity-rest cycling, and communication skills might be particularly useful for people with alexithymia. Biofeedback may also be helpful, not only because an external device helps patients reduce and manage arousal, but also because it might teach patients the links between psychological states and physiological reactions.

Alexithymia is often considered a trait and, therefore, relatively immutable to change. Yet, one might conceptualize alexithymia as a lack of emotional skills or abilities that can be learned through experience or treatment. Although little research has been conducted on interventions for alexithymia, several approaches have been suggested. Levant (2001) views “normative male alexithymia” as a skill deficit that is common in males due to socialization that minimizes awareness and expression of feelings other than anger. He has developed a cognitive behavioral intervention which teaches clients to learn emotion terms, label emotional situations, observe their own symptoms, and then link emotional labels with their symptoms. Others have suggested that variations of psychodynamic therapy—such as labeling feelings for patients rather than asking them how they feel—will help alexithymic patients (Taylor et al., 1997). It is also possible that treatments that encourage greater attention to internal experience, such as mindfulness or the focusing technique of experiential psychotherapy, may result in greater

emotional awareness and less alexithymia. Finally, we know of clinicians who preferentially prescribe serotonin reuptake inhibiting medications for alexithymic patients with anxiety and depressive conditions because they believe that such patients prefer such non-psychological interventions. All of these interesting clinical ideas, however, have yet to be tested.

Interpretive Limitations, Conceptual Challenges, and Future Directions

There are limitations and conceptual problems regarding the assessment of alexithymia and inferences that one can make when high alexithymia scores are found. Some of these issues are unique to alexithymia, whereas others are common in personality assessment. Some have been debated for years; others are newer. In this section, we describe and comment on six issues.

Is Alexithymia Stable, or Can it Occur Secondary to Trauma or Health Problems?

Associations between alexithymia and illness or behavior problems are often interpreted as alexithymia being a cause. This bias may stem from the emphasis in psychosomatic medicine—the field in which alexithymia research is traditionally published—to view psychosocial and behavioral factors as the "predictors" or causes, and physiological changes or health problems as the "outcomes." Theoretically, however, alexithymia could result from trauma or stress. Although early childhood trauma, abuse, or neglect has been linked with alexithymia later in life (Krystal, 1997), most clinicians consider this to be "primary alexithymia." In contrast, the question here is whether trauma, stress, or even health problems during adolescence or adulthood can trigger alexithymia, so-called "secondary alexithymia." Recent research has investigated the association between trauma and alexithymia, the temporal stability of alexithymia, and the development of states similar to alexithymia.

First, a substantial literature indicates that adults with PTSD are quite likely to be alexithymic. Krystal's (1988) pioneering, in-depth studies of Holocaust survivors revealed that many of them had impairments in the ability to recognize and verbalize emotions and an externally-focused cognitive style that lacked fantasy. Other studies of PTSD have found substantial elevations of alexithymia (Badura, 2003; Fukunishi, Sasaki, Chishima, Anze, & Saijo, 1996; Zlotnick, Mattia, & Zimmerman, 2001), as have studies of people who have suffered head injury (Williams et al., 2001), severe burns (Fukunishi, Chishima, & Anze, 1994), and sexual violence (Zeitlin, McNally, & Cassiday, 1993). Although alexithymia could predispose people to experience such stressors in the first place or to develop PTSD symptoms subsequently, such studies certainly suggest that trauma can lead to alexithymia.

With respect to the temporal stability of alexithymia, some longitudinal studies have suggested a trait view of alexithymia (e.g., Martinez-Sanchez, Ato-Garcia, & Ortiz-Soria, 2003), whereas the frequently observed association between alexithymia and depression or anxiety suggested a state-dependent phenomenon (Honkalampi, Hintikka, Laukkanen, Lehtonen, & Viinamaki, 2001; Honkalampi et al., 2004; Marchesi, Fontò, Balista, Cimmino, & Maggini, 2005). Recent studies appear to have reached a consensus on this issue, however, by distinguishing absolute from relative stability. A test of absolute stability refers to changes in mean alexithymia scores and is typically tested with paired t-tests; a test of relative stability examines the ranking of scores over time, as indicated by correlations. A number of studies have reported that alexithymia scores have relative stability—similar rank orders over time—but not absolute stability, in that mean alexithymia scores often change, in part due to changes in negative affect or other symptoms (Luminet, Bagby, & Taylor, 2001; Mikolajczak & Luminet, 2006; Posse, Hällström, & Backenroth-Ohsako, 2004; Saarijarvi, Salminen, & Toikka, 2006)

Finally, there are several empirically-supported theoretical models that propose that a state similar to alexithymia can occur after stress, trauma, illness, or pain. The Dynamic Model of

Affect (Reich, Zautra, & Davis, 2003), Dynamic Integration Theory (Labouvie-Vief, 2003), and the concept of levels of thinking (Pennebaker et al., 1990) all propose that stress, illness, or bothersome symptoms can lead to poor affect differentiation, reduced cognitive / affective complexity, and concrete thinking. The resulting cognitive-affective style may be a state form of alexithymia, although studies of these models have not assessed alexithymia directly.

We suggest that alexithymia should not be considered a dichotomy—as either a trait or a state—but as a complex manifestation that includes both trait and state components. The state component reflects current affect as well as situational variables that impose on one's cognitive / affective processing capacity. In addition, the balance of these two components probably varies among people, such that some individuals manifest a stronger trait of alexithymia whereas other people, under certain conditions, present with relatively more state-dependent alexithymia. Differentiating these may require assessing pre-morbid or developmental functioning.

Is Alexithymia a Unique Psychological Construct?

There are several constructs that overlap with alexithymia and might account for its relationship with health problems. Two socioeconomic variables, higher age and lower education, are correlated with both alexithymia and health problems, but their relationships with alexithymia are probably too weak to account for its relationship to health. The most commonly considered alternative construct is negative affect (neuroticism). The TAS-20 has a moderate positive correlation with negative affect (De Gucht et al., 2004a, 2004b), yet it is not known how much of the shared variance is due to alexithymic people having elevated negative affect and how much is due to the measure's susceptibility to a negativity response bias or the self-criticism inherent in its item content. Many authors statistically control for negative affect, and this has met with mixed results, with some studies concluding that negative affect accounts for the effects of alexithymia (Bydlowski et al., 2005; Eizaguirre, Saenz de Cabezón, Alda, Olariaga, & Juaniz, 2004), and others reporting that alexithymia remains uniquely predictive (e.g., Luminet et al., 2004; Vermeulen et al., 2006). This inconsistency may be due in part to differences in sample size as well as the criteria applied for deciding whether the effect of alexithymia is eliminated.

Several personality constructs also overlap with alexithymia. A study of the big five personality dimensions found that high neuroticism, low extraversion, and low openness—but not agreeableness or conscientiousness—were associated with alexithymia, and specific facets within these dimensions accounted for these associations (Luminet, Bagby, Wagner, Taylor, & Parker, 1999). Other research supports these findings (Zimmermann, Rossier, Meyer de Stadelhofen, & Gaillard, 2005). Yet, with the exception of a study that found that alexithymia predicted general psychopathology independent of the personality dimensions of Cloninger's tripartite model (Grabe, Spitzer, & Freyberger, 2004), very few studies have tested whether alexithymia predicts health variables beyond the effects of personality dimensions.

Our view is that some portion of the relationship between alexithymia and self-reported illness or symptoms is due to confounding by negative affect; however, there remains some independent relationship between alexithymia and poor health beyond negative affect. Also, although one could interpret the personality research as suggesting that alexithymia is redundant with basic personality dimensions and facets, we view alexithymia as a unique configuration of basic traits. Thus, we think that it is more efficient to have a single construct of alexithymia to describe this pattern rather than separate personality dimensions.

Should One Consider Alexithymia as a Single Construct or Separate Facets?

Alexithymia is typically considered a constellation of correlated characteristics, including deficits in emotional awareness, differentiation, and verbalization as well as externally-focused cognition and a paucity of imagery and fantasy. The TAS-20 and most other measures of alexithymia have separate subscales or facets for each domain, and the total score is typically discussed as a measure of alexithymia. There has been a trend in the literature to report on the separate facet scores in addition to the total score. This is done in part to clarify which aspect of alexithymia is most important in the study, but it also is done when the total alexithymia score does not predict outcomes. Often, the difficulty identifying feelings and describing feelings facets of the TAS-20 predict criteria, whereas externally oriented thinking does not. Sometimes the facets predict different criteria in one sample, such as different forms of health care use (Lumley & Norman, 1996), subjective symptoms versus objective health measures (Feldman, Lehrer, & Hochron, 2002), or responses to written emotional disclosure (Lumley et al., 2002).

It is noteworthy that the three facets of the TAS-20—difficulty identifying feelings, difficulty describing feelings, and externally-oriented thinking—have low to moderate correlations with neuroticism, introversion, and low openness, respectively. Given that these three personality constructs are theoretically independent, one might expect that the three alexithymia facets will have differential validity. For example, difficulty identifying feelings may prompt complaints of symptoms and increased healthcare use, difficulty describing feelings may be related to inhibition and difficulty connecting with others, and externally-oriented thinking may decrease bodily awareness, resulting in decreased healthcare use. Although there may be some value in examining the correlates of the different facets, one should avoid making conclusions about alexithymia when referring to just one facet or subscale of a measure (e.g., Paez, Velasco, & Gonzalez, 1999). In addition, one might argue that the truly alexithymic person is someone who scores in an elevated range on all facets simultaneously—something that a total score does not guarantee—but to our knowledge, researchers have not yet done this.

Are There Different Subtypes of Alexithymia?

The reader might have noticed that the two cases presented earlier differed somewhat in their emotional experience and expression. Mr. A. expressed and apparently experienced little emotionality, whereas Ms. B. typically reported general negative emotional states and frequently expressed negative affect. Mr. A. was highly externally-focused, not psychologically-minded, lacked imaginal capacity, and was viewed by others as stiff or rigid. Ms. B. was more interested in psychological issues and had a number of close relationships. Finally, Mr. A. was quite unaware of the feelings of others, whereas Ms. B. was attuned to others' feelings. Thus, what were the commonalities that led us to judge both of them to be alexithymic? Importantly, both patients had substantial difficulty with introspection—knowing what they were feeling and why they felt that way. Both had difficulty regulating their arousal, exacerbating various symptoms including panic attacks in Mr. A. and outbursts of weeping in Ms. B. Both also had somatic problems (hypertension for Mr. A. and fibromyalgia and irritable bowel syndrome for Ms. B.), suggestive of poor autonomic regulation and the tendency to over-report somatic sensations. Finally, both were challenging to treat in therapy because of these characteristics, and the therapist's attempts at interpretations and the development of insight met little success.

Clinical observations such as these have led to the proposal that the broad construct of alexithymia actually subsumes at least two subtypes (Larsen, Brand, Bermond, & Hijman, 2003; Moorman, Bermond, Albach, & van Dorp, 1997). So-called Type 1 alexithymia refers to the prototypic or classic alexithymic person who has little experience or display of emotion, minimal emotional awareness and verbalization, and a pronounced external orientation. Such

people are emotionally neutral or bland, place little value on psychological processes, and relate to others in a rigid, machine-like fashion. In contrast, the so-called Type 2 alexithymic person experiences and expresses heightened levels of negative emotion but has difficulty identifying and labeling his or her own feelings and is confused, overwhelmed, feels numb, or acts out when aroused. If these subtypes are valid, then one might view Mr. A. as manifesting Type 1 alexithymia, whereas Ms. B. shows Type 2.

The primary advocates of the alexithymia subtype hypothesis have developed a self-report measure, the BVAQ, which purportedly differentiates these subtypes by including an emotionalizing subscale to assess the tendency to experience arousal associated with negative emotions. There is as yet, however, little validity data on this measure, and the emotionalizing subscale may confuse the physiological arousal associated with the biological experience typically called “emotions,” with the subjective mental representation of emotions that are typically viewed as “feelings.” More generally, there is an absence of research, such as taxon studies, testing the subtype hypothesis, so the concept currently remains only theoretical.

The alexithymia subtype hypothesis is controversial but potentially useful, so we encourage research on it because it may help explain variability among people considered alexithymic. For example, research on gender differences, attachment styles (avoidant versus anxious), physiological responses to stimuli (hypo- versus hyperaroused), the ability to recognize feelings in others, and the experience of negative emotions may reveal that the pool of alexithymic people divides into subsets reflecting the hypothesized two subtypes.

What is the Criterion for Measures of Alexithymia?

There is a subtle but important issue that affects alexithymia assessment—the question of the criterion or “gold standard.” The original criterion was a clinical judgment based on extensive interpersonal, verbally-based interactions that often challenged the person to introspect, reflect on emotion, and verbalize feelings. Such observations were codified in a rating device, the BIQ. It is noteworthy that only the initial studies that introduced the TAS and the TAS-20 used BIQ scores from clinical interviews of patients as the criterion against which these new self-report scales were validated. Rarely have clinical interviews or even the BIQ been used subsequently to detect alexithymia. Furthermore, there are only a few studies that have directly tested whether the TAS-20 or other alexithymia measures actually predict people's ability to identify, differentiate, and verbalize emotions. Rather, there are scores of studies of the factor structure of measures, perhaps because such studies are relatively easy to conduct; one can administer only the single measure of interest without the hassle of assessing any criterion! Although the typical results of such studies are that the authors conclude additional evidence for validity of the measure and construct, we feel that such factorial validation is relatively weak, compared to demonstrating how a measure captures the gold standard criterion. Additionally, there are hundreds of studies testing whether the TAS-20 correlates with a host of variables posited to be related to alexithymia, such as various disorders, symptoms, behaviors, interpersonal relationships, physiology activity, and cognitions. These types of studies are important and provide criterion-oriented validity of a measure. Yet, the lack of studies that test whether “the measure actually assesses what it purports to assess”—which is the classic definition of validity—is surprising and somewhat disconcerting.

This problem is compounded when new alexithymia measures are developed. The most common approach is to validate them against the current standard measure, the TAS-20. There is a shift then, from the original and true criterion of affective and cognitive behavior of people, to simply another measure that is itself only an approximation of alexithymia. Such validiation studies are unfortunately common in personality research, and can lead eventually to a process by which measures are only validated against other approximations, moving further from the original criterion of interest. We advocate researchers and clinicians to remember that the

measure that one is using (e.g., TAS-20, OAS, BVAQ, LEAS, etc.) is not itself alexithymia, but only an approximation of it. Alexithymia is not a score on a scale, but a set of affective / cognitive characteristics manifest by some people. We hope to see more studies that actually assess people's affective and cognitive functioning.

Should We Use Multiple Measures of Alexithymia?

Self-report alexithymia measures, particularly the TAS-20, have dominated the literature. The efficiency of self-report measures and the long-standing belief that self-report provides optimal access to one's own psychological processes have kept self-report measures in the forefront. Yet, self-report may be limiting, particularly with respect to alexithymia. First, there is the conceptual conundrum about reporting characteristics that, by definition, involve limited or impaired introspection, thus raising questions about the validity of this approach, especially to capture the high end of alexithymia (Lane, Ahern, Schwartz, & Kaszniak, 1997; Lundh, Johnsson, Sundqvist, & Olsson, 2002). Second, if one conceptualizes alexithymia as a lack of skills or abilities, or a lack of emotional intelligence, then our field has traditionally used performance measures rather than self-reported estimates of how skilled or intelligent a person is. Finally, alexithymia was originally assessed by clinician-observers, and this procedure is likely to remain a common approach in applied settings. In these cases, the presence of alexithymia is inferred by a person's language, lack of insight, and interpersonal style, but not by asking people to judge themselves directly.

A common recommendation is that assessment of psychological constructs should use multiple measures, particularly via different methods. Thus, we are pleased with attempts to develop and validate non-self-report alternatives for assessing alexithymia. Yet, when multiple alexithymia measures are used, one quickly encounters two problems: the correlations among them often are low; and integrating the results of multiple measures is challenging. Correlations between alexithymia measures that use the same method (mono-trait, mono-method), such as two alexithymia self-report scales completed by the same person, tend to be moderately to highly correlated (Berthoz, Ouhayoun, Perez-Diaz, Consoli, & Jouvent, 2000). Similarly, two observer measures of alexithymia correlate highly when they are completed at one time by the same observer about the same target person (Haviland et al., 2002). It appears that the common method accounts for these high correlations, because when different methods or raters are used, correlations are relatively low (Berthoz, Haviland, Riggs, Perdereau, & Bungener, 2005). We (Lumley, Gustavson, Partridge, & Labouvie-Vief, 2005) recently conducted a study of young adults that simultaneously tested multiple measures of alexithymia, including self-report (TAS-20), collateral ratings (OAS), interview judgments (modified BIQ), verbal performance (LEAS), and emotional intelligence performance (Mayer-Salovey-Caruso Emotional Intelligence Test; MSCEIT). There was little correspondence or overlap of these measures. Indeed, correlations among measures that use different methods were quite low, with such measures sharing only 2% to 9% of their variances. There was no evidence that a single construct was being assessed; rather, the method variance was much higher than variance attributable to alexithymia.

Relatively low correlations among different methods of assessing alexithymia raise practical concerns about how to handle multiple measures. One option, of course, is to avoid the issue entirely by retreating to the use of only a single measure of alexithymia. There is certainly some attraction and simplicity in this approach, but we fear that our understanding of the construct will not advance well, and the rate of false positive and false negative decisions will be too high. A very conservative option is to classify only those people who score highly on all of the administered alexithymia measures, but this approach will probably be too limiting, resulting in unacceptably few identified cases as increasing numbers of measures are used.

An alternative method that we hope to see explored is to consider the various measures of alexithymia as partially independent indicators of the construct, which can be combined in some fashion (perhaps added linearly with unit weighting of each measure) into a composite alexithymia score. This may provide the most reliable measure of alexithymia, although one loses the simplicity and ease of replication and comparability of using only a single measure.

Conclusions

The construct of alexithymia is, in our opinion, a welcome addition that broadens our understanding of emotions, affect regulation, and the etiology and treatment of medical and psychological disorders. There is now a voluminous literature on alexithymia, and it is time that the construct makes inroads into clinical practice. The assessment of alexithymia in medical and mental health settings is both feasible and recommended, multiple measures of alexithymia using different methods are currently available, and the literature supports a number of useful clinical inferences when elevated alexithymia scores are found. Knowing a patient's level of alexithymia guides our understanding of health status, clinical presentation, behavior, and responses to treatment. Although there remain various interpretive and conceptual limitations, we encourage readers to translate empirical and theoretical knowledge about alexithymia into clinical practice.

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Table 1

Summary of Findings and Limitations of Five Domains of Information on the Validity of Assessing Alexithymia in Medical Settings

Domain of Information	General Findings about Alexithymia	Limitations of Findings
Pathophysiology and contributions to somatic disease	Possible increased tonic sympathetic activity Decreased immune functioning No hyper-reactivity to stressors	Studies are not consistent Effects may be too weak to influence disease Little information from field (non-lab) studies Alexithymia only one of many contributing factors
Symptom reporting and health care utilization	Increased somatic symptom reporting Increased health care seeking	May be due to bias of correlating two self-reports May be confounded by negative affectivity May be limited to active patients
Maladaptive behavior	Higher rates of eating disorders, substance abuse and dependence, pathological gambling More sedentary lifestyle, higher body mass index Increased risk for violent death and suicidality	Inferences made from clinical disorders, rather than assessment of actual behaviors Not known whether unhealthy behaviors are attempts to regulate affect
Treatment adherence and treatment outcomes	Poorer treatment outcomes for many disorders and insight / emotion-oriented treatments No effect on cognitive-behavioral treatments Neutral or positive indicator for better adherence	Tested mostly in unspecified and unstandardized treatments May be confounded with other variables, such as poorer mental health
Potential for reduction of alexithymia	Some reduction during treatment for various disorders Several suggestions for way to reduce alexithymia	Reduced alexithymia could result from reduced symptoms Only one controlled study targeting alexithymia