

THE DEVELOPMENT AND VALIDATION OF AN INTERVIEW-BASED OBSERVER  
RATING SCALE FOR ALEXITHYMIA (SIFA)

by

Darek Dawda

B.Sc., Trent University, 1995

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Approval

NAME: Darek Dawda

DEGREE: Master of Arts (Psychology)

TITLE OF THESIS: The Development and Validation of an Interview-based  
Observer Rating Scale for Alexithymia (SIFA).

EXAMINING COMMITTEE:

Chair: Barry L. Beyerstein, Ph.D.

\_\_\_\_\_  
Stephen J. Hart, Ph.D.  
Associate Professor

\_\_\_\_\_  
Marlene Moretti, Ph.D., R. Psych  
Associate Professor

\_\_\_\_\_  
Robert D. Hare, Ph.D.  
External Examiner  
Professor, Psychology Department  
The University of British Columbia

Date Approved: November 25, 1997

## Abstract

Alexithymia, literally *lack of words for feelings*, is a personality construct characterized by an inability to understand and communicate emotional experience. The present study undertook to develop an interview-based observer rating scale to assess the construct of alexithymia. The Structured Interview for Alexithymia (SIFA), a 13-item scale, was developed using a standard methodology. One hundred and thirty nine right-handed male university students completed the SIFA and a battery of self-report measures of alexithymia, personality, depression, and emotional intelligence. After a one-month interval, thirty participants were interviewed a second time. Interrater and test-retest reliabilities of most SIFA items were acceptable or excellent. Solid evidence for concurrent and convergent/discriminant validity was found. The preliminary results of the dimensionality of the SIFA suggest that it comprises two related, but clearly distinct, dimensions. Overall, the results suggest that the SIFA is an easy to administer, reliable, and valid instrument which can be used for research purposes.

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## INTRODUCTION

The concept of alexithymia – literally, “lack of words for feelings” – was first proposed by Sifneos (1973) who noted that psychiatric patients suffering from psychosomatic symptoms often had a variety of problems dealing with emotions. These problems included difficulty understanding one's own and others' emotional experiences; an inability to use cognitive mechanisms to regulate emotional experiences; an emotionally impoverished fantasy life; difficulty empathizing with others; and an inability to communicate emotional experience effectively (Demers-Desrosiers, 1982; Frankel, Apfel-Savitz, Nemiah, & Sifneos, 1977; Loiselle & Dawson, 1988; Nemiah 1977; Taylor, Bagby, & Parker, 1991; Taylor, 1984, 1994; Vogt, Burckstummer, Ernst, Meyer, & von Rad, 1977). Given the centrality of emotion in human life, alexithymic individuals seem doomed to failure in social interactions and are prone to cope with negative affect via somatization (Dunn & Brown, 1991; Taylor et al., 1991; Taylor, 1994). Although originally conceptualized as a clinical state, alexithymia is now studied widely as a personality trait.

### Measurement of Alexithymia

Sifneos (1973) originally assessed alexithymia using the Beth Israel Hospital Questionnaire (BIQ). The BIQ comprises 17 ratings made on the basis of a clinical interview. Eight of these items were used to assess alexithymia. However, given that the BIQ was developed for psychiatric assessment of psychosomatic patients and not specifically for the purpose of alexithymia assessment and that little psychometric theory was employed in its development, it is not surprising that the

limited amount of research on interrater reliability and validity of the eight BIQ alexithymia items has provided inconsistent results (Apfel & Sifneos, 1979; Norton, 1989; Paulson, 1985; Sriram, Pratap, & Shanmugham, 1988; Taylor & Bagby, 1988). This inconsistency may be due in part to the fact that the BIQ does not include a standard set of interview questions.

The most widely-used instrument to assess alexithymia is a 20-item self-report measure, the Toronto Alexithymia Scale (TAS-20; Bagby, Parker, & Taylor, 1994a; Bagby, Taylor, & Parker, 1994b). There exists some evidence for the convergent, discriminant, and concurrent validity (Bagby et al., 1994b; Parker, Taylor, & Dawda, 1996) as well as the structural properties (internal consistency and factor structure) of the TAS-20 (Bagby et al., 1994a; Parker, Bagby, Taylor, Endler, & Schmitz, 1993). The TAS-20 has been used in a variety of populations, including university students, community-resident adults, and psychiatric outpatients (Bagby et al., 1994a). However, there also exists some controversy about both the validity (Haviland, MacMurray, & Cummings, 1988; Hendryx, Haviland, & Shaw, 1991) and the factor structure (Kroner & Forth, 1995; Hendryx et al., 1991; Taylor, Bagby, & Parker, 1992) of the TAS-20.

It is not clear whether the TAS-20 is better conceptualized as a two- or three-dimensional scale. The three factors that are postulated by the creators of the TAS-20 are *Difficulties identifying feelings and distinguishing between feelings and body sensations of arousal*, *Difficulties describing feelings*, and *Externally oriented thinking* (Bagby et al., 1994a; Parker et al., 1993). However, Kroner and Forth

(1995) found a two-factor solution for the TAS-20 items, where the dimensions of *Problems describing feelings* and *Problems identifying feelings* loaded on the same factor. In fact, the factor analysis of the original, longer version of the TAS-20, the TAS-R (Taylor, Bagby, & Parker, 1992), did not differentiate between the dimensions of *Problems identifying feelings* and *Problems describing feelings*. In the authors' words "Clearly, it is not possible to communicate feelings to others unless one is aware of and able to identify those feelings for oneself" (p. 37). The only difference between the TAS-R and the TAS-20 is that 6 items were dropped for the newer scale; no new items were added to the TAS-20. Also, the correlations between these two facets of the TAS-20 are typically very high, ranging from .65 to .74 (Haviland & Reise, 1996; Bagby et al., 1994a). Finally, content analysis of the TAS-20 and the BIQ also suggests that the TAS-20 factor of *Problems identifying feelings* has no corresponding items in the BIQ.

It is possible that the reason why the factors of *Problems identifying feelings* and *Problems describing feelings* come up separate in factor analysis is due to the subtleties of measurement rather than the characteristics of the underlying construct. For example, no other TAS-20 items but 5 of 7 items of the *Problems describing feelings* factor are negatively phrased. In a similar way, the word "often" is used in no other but 3 of 7 items of the *Problems identifying feelings* factor, whereas the words "difficult," "hard," and "easily" are used in no other but 4 of 5 items of the *Difficulties identifying feelings* factor. If these speculations are correct, the construct of alexithymia as measured by the TAS-20 may be better

conceptualized as two- and not three-dimensional.

Additionally, Sifneos (1996), the originator of the alexithymia construct, criticizes the TAS-20 for its narrowness. Of the original 8 BIQ items, only 4 appear to be clearly represented in the TAS-20. For example, *Poor fantasy*, which according to Sifneos (1996) is a crucial component of alexithymia, is not included in the TAS-20. Nor does the TAS-20 measure the *Action as expression of feelings* or *Action as avoidance of feelings* dimensions. The reason for the exclusion of these facets of alexithymia from the TAS-20 was the poor behavior of the corresponding items in the original TAS (Bagby et al., 1994a). However, such an exclusion might have compromised the clinical richness and thus validity of the alexithymia construct for the reasons of reliability and factorial elegance.

Regardless of the above criticisms, the TAS-20 appears to be the best available self-report measure of alexithymia (Taylor et al., 1994), and has been largely accepted as the standard instrument to measure alexithymia. Due to its ease of administration, most researchers have used the TAS-20 as the sole instrument to assess alexithymia. Consequently, the field may be confronted with what Cook and Campbell (1979) termed *mono-method bias*, a validity bias which results from using one assessment method (here, self-report), as well as *mono-operational bias*, resulting from using a single instrument to assess an underlying construct. Since Cattell (1957), attention has been paid to the fact that observed and self-reported personality traits do not show perfect correspondence (Wiggins, 1973). Researchers have called for a multimethod approach to assessment to minimize measurement

error and thus maximize construct validity (Nay, 1979).

Self-reports are considered especially inadequate for the purposes of a thorough individual clinical assessment. Hodges (1990) suggested that self-reports are useful as screening measures only. Clinical interviews remain the most widely-used method of clinical assessment (Aiken, 1995). Constructs that attempt to tap personal style or the dynamics of cognitive and emotional processes are particularly suited for interview-based assessment techniques. For example, after multiple attempts to construct a valid self-report measure of psychopathy (e.g., Hart, Forth, & Hare, 1991; Zagon & Jackson, 1994), researchers have concluded that the sole reliance on self-report assessment methodology is questionable (Hare, 1985). Instead, the Psychopathy Checklist (PCL-R; Hare, 1991), an interview-based observer rating scale, has become a standard way of assessing the construct. Other similar examples include semistructured interviews developed to assess the constructs of narcissistic and borderline personalities (Gunderson & Kolb, 1981; Gunderson, Ronningstam, & Bodkin, 1990).

### The Present Study

The purpose of my project was to develop a reliable and valid semistructured interview for alexithymia (the Structured Interview for Alexithymia; SIFA), which would capture the domains of content represented in the TAS-20 as well as those represented in the BIQ. My primary goal was to reconcile the TAS-20 and the BIQ. My hope was that, once standardized, my assessment tool could be used as a research and clinical diagnostic tool.



In developing the SIFA, I employed the methodology used in the development of several recent interview-based rating scales (Gunderson & Kolb, 1981; Gunderson et al., 1990; Hare, 1991; Hart, Cox, & Hare, 1995). The most important steps included: a complete literature review; the identification of conceptual domains and corresponding interview questions; consultation with leading experts in the field; and the administration of the interview, along with other instruments, to obtain preliminary reliability and validity data.

The present study concentrates on the initial stage of the analysis of the psychometric properties of the SIFA, that is, the analysis of items. The following criteria were used. First, the distribution of the items was considered in terms of central tendency, variability, and shape. As alexithymia is a clinical construct, it was expected that some items may show low means and variances and may violate the assumption of normality. Second, interrater reliability was assessed on the item level. Third, because alexithymia is considered to be a stable trait, one-month test-retest reliability of the SIFA items was estimated. It was expected that all the reliability coefficients of the SIFA items would be higher than .50 and that the reliability of the SIFA Total score would reach .85, which is the level required for an instrument to be classified as excellent for idiographic clinical assessment (Murphy & Davidshofer, 1994). Fourth, internal consistency ( $\alpha$ ) of the SIFA Total score was expected to exceed .80. Further, each item's correlation with the rest of the scale was expected to exceed .30. Fifth, preliminary analysis of the dimensionality of the SIFA was conducted to decide whether a two- or a three-factor solution would better account for the data. Sixth, concurrent and convergent/discriminant validity of

the SIFA items was evaluated. For concurrent validity, it was expected that the SIFA items would significantly correlate with either the TAS-20 or the BIQ or both. Regarding convergent/discriminant validity, it was expected that the SIFA items would be positively associated with the *Neuroticism* facet of the Five-Factor personality model (Bagby et al., 1994b; Costa & McCrae, 1985; Mann, Wise, Trinidad, & Kohanski, 1994; Parker et al., 1996) and depression as measured by the BDI (Beck, 1978; Haviland et al., 1988; Parker, 1996). There is also a conceptual overlap between alexithymia and the concept of the *Openness to Experience*, as both include attentiveness to inner feelings and active imagination (Taylor, 1994). Consequently, it was expected that the SIFA items would be negatively associated with the *Openness* facets of the Five-Factor personality model (Bagby et al., 1994b; Costa & McCrae, 1985; Mann, Wise, Trinidad, & Kohanski, 1994). Similarly, the *Intra-Personal* facet of emotional intelligence, which includes the dimension of *emotional self-awareness* (EQ-i, Bar-On, 1996), is conceptually similar to alexithymia. Consequently, a negative relationship between the SIFA and the *Intra-Personal* facet of the EQ-i was expected. The final part of this study provides a broader discussion of the implications that the present findings may have on the conceptualization of the construct of alexithymia.

## Method

### Participants

One hundred and thirty nine male undergraduates participated in the study.

They ranged in age from 17 to 41 years ( $M = 22.36$ ,  $SD = 4.31$ ). Most were majoring in Arts (33%), Applied Sciences (18%), Sciences (14%), or Business Administration (9%). The annual income of most (79%) participants was below \$10,000. English-as-a-second-language and left-handed subjects were excluded from the study. Students were recruited through advertisements posted throughout the university. They were paid \$10 to complete an interview and a battery of self-reports. Thirty participants were interviewed twice and paid an additional \$10 for the second session.

### Procedure

Development of the SIFA. The first step in the development of the SIFA consisted of the conceptualization of the structure and content of the construct of alexithymia. My content analysis of the TAS-20 items suggested that the 20 items could be divided into 7 content areas. The TAS-20 Factor 1, *Difficulties identifying feelings*, covers 2 content areas: *Distinguishing emotions* and *Interpreting physiological arousal*. The TAS-20 Factor 2, *Difficulties describing feelings*, covers 3 content areas: *Lack of words*, *Inappropriate words*, and *Communication deficit*. The TAS-20 Factor 3, *Externally oriented*, covers 2 content areas: *Describes circumstances*, and *Describes details*. Next, I content-analyzed the 8 BIQ ratings and compared them to the TAS-20. Two additional content areas of the BIQ were not represented in the TAS-20, although they seemed related to Factor 3 of the TAS-20: *Poor fantasy* and *Action as expression of feelings*. Finally, I reviewed all relevant conceptual and psychometric literature on alexithymia and noted additional

5 content areas which were not covered by the TAS-20 or the BIQ. In order to obtain complete and comprehensive clinical conceptualization of the construct, I included these facets in my conceptualization of the construct. *Understanding the reasons for feelings* and *Inappropriate affect* seemed to correspond to Factor 1 of the TAS-20, and *Affective paucity*, *External orientation*, and *Physical complaints* appeared to be related to Factor 3 of the TAS-20. See Appendix A for detailed definitions of the SIFA items.

Following this conceptual work, I constructed interview questions to tap the above content domains. Some questions were extracted from the existing alexithymia literature. The interview begins with more general questions regarding emotional style and progresses towards asking more specific questions related to the SIFA items. The usefulness of the questions was pilot-tested by two independent interviewers with a group of normal and clinical subjects, and modifications were made. See Appendix A for a copy of the SIFA interview questions.

The next step involved written and phone consultation with experts in the area of alexithymia. I received advice from a number of leading researchers and clinicians, including Dr. Graham Taylor, the creator of the TAS, and Dr. Peter Sifneos, the originator of the alexithymia construct. I have revised the scale to best accommodate the recommendations of experts.

The final version of the SIFA is a 13-item scale. Consistent with the TAS-20 factor structure, I retained a three-facet conceptualization of the construct. As to its

breadth, SIFA included a number of dimensions that are not tapped by either the TAS-20 or the BIQ. The following were the facets and items of the SIFA. Facet 1, *Problems identifying feelings*, consisted of the following 4 items: *Distinguishing emotions*, *Interpreting physiological arousal*, *Understanding the reason for feelings*, and *Inappropriate affect*. Facet 2, *Problems describing feelings*, consisted of the following 3 items: *Lack of words*, *Inappropriate words*, and *Communication deficit*. Facet 3, *External orientation*, consisted of the following 6 items: *Describes circumstances or details*, *Poor fantasy*, *Affective paucity*, *External orientation*, *Physical complaints*, and *Action*.

Overview of the Study. The next step included the collection of the preliminary validity and reliability data for the SIFA. Participants ( $N=139$ ) who provided informed consent completed a 1.5 hour long testing session. The session included the SIFA interview and a battery of self-reports including measures of alexithymia (TAS-20; Bagby et al., 1994a; Bagby et al., 1994b), personality (NEO-FFI; Costa & McCrae, 1991), emotional intelligence (EQ-i; Bar-On, 1996), and depression (BDI; Beck, 1978). The order of all self-report questionnaires was counterbalanced. These measures were selected for the purpose of assessing convergent/discriminant and concurrent validity.

A random subsample of 52 participants had their first interview session videotaped. These students were subsequently rated by two independent raters, one of whom was the interviewer. Thirty of these subjects were asked to return approximately 30 days later ( $M = 26.30$ ,  $SD = 8.71$ ) to provide data for test-retest

reliability. At this time they were interviewed by a third independent rater. During the retest interview, the participants were again asked to complete the TAS-20 and the BDI.

Interviewers. The interviewers and raters were 10 graduate and undergraduate psychology students. Prior to interviewing, the interviewers completed a two-day training program which involved acquiring familiarity with conceptual and clinical aspects of alexithymia, practicing the administration of the SIFA interview, and acquiring familiarity with the SIFA scoring procedure. The number of interviews conducted by any one student during the study varied from 6 to 35. The interviewers were also asked to rate the confidence of their ratings on a five-point scale (1 = low, 5 = high). The mean confidence rating was 3.77 (SD = .62).

### Instruments

The SIFA. The Semistructured Interview for Alexithymia (SIFA) is a 13-item interview-based rating scale which has been developed for the purpose of the present study using a standard methodology (Gunderson et al., 1990; Hare, 1991; Hart et al., 1995). For details, see *Development of the SIFA* section in *Procedure*.

The following are the administration criteria. The SIFA is to be administered after establishing a rapport. It is recommended that the interviewers have some prior clinical and/or interviewing experience for two reasons. First, the scoring should partially reflect participants' nonverbal behavior and response style. Second, the interview questions are designed to help the interviewer, but further probing may be required and not all probes may be necessary. The interviewer is required to

conduct the entire interview before scoring the items, as a significant number of questions provide information for more than one item. Questions are to be asked verbatim unless modifications are required to accommodate previous responses. Question-probes in parentheses are optional. Although tailoring questions to individuals is necessary and desirable for adequate clinical assessment, using questions and probes beyond the ones provided should not be extensive. The interview takes approximately 30 minutes to administer.

The following are the scoring criteria for the SIFA. Both verbal responses and non-verbal cues should be considered in scoring. It is anticipated that alexithymic individuals will have difficulties accurately appraising their own emotional functioning. Consequently, if observations and verbal responses are discrepant, observations should generally be weighted more heavily. The non-verbal clues of importance include level of animation, congruity of words and non-verbal behavior, variation in emotionality/voice pitch, length of the answer, and puzzlement over certain questions. The attention should be paid to the interviewer's reactions to the person (e.g., being bored). Reasons and explanations rather than the answers per se constitute crucial information.

The scoring system was adopted from the Psychopathy Checklist (PCL-R; Hare, 1991). Each item is scored on a 3-point scale. An item should be scored 2 if it applies to the individual; if there is a reasonably good match in most essential respects; and/or if the presentation is generally consistent with the flavor and intent of the item. An item is to be scored 1 if it applies to a certain extent but not to the degree required for a score of 2; if there is a match in some respects but with too

many exceptions or doubts to warrant a score of 2; if uncertain about whether or not the item applies; and/or if conflicts between verbal and non-verbal information cannot be resolved in favor of a score of 2 or 1. An item is to be scored 0 if it does not apply to the individual; if he/she does not exhibit the trait or behavior in question; and/or he/she exhibits characteristics that are the opposite of, or inconsistent with, the intent of the item. In addition to a 3-point scale, each item was scored using a 7-point scale from 0 to 6. The same three anchor points that were used for 0, 1, 2 scale were used for the 7-point scale (i.e., 0 corresponded to 0, 1 corresponded to 3, and 2 corresponded to 6). The scores of 1, 2, 4, and 5 on the 7-point scale were not defined. See Appendix A for a copy of the interview protocol and scoring manual of the SIFA.

The TAS-20. Alexithymia was additionally assessed using a self-report scale (TAS-20; Bagby et al., 1994a; Bagby et al., 1994b). The TAS-20 is 20-item scale with a 5-point response format. A score of 61 or more is considered alexithymic (Parker, Taylor, & Bagby, 1993a). The TAS-20 has been accepted as a standard research way to measure alexithymia. See Appendix B for a copy of the TAS-20.

As shown in Table 1, the mean TAS-20 Total score in the present study was lower than the reported norms for men,  $t(524) = -6.32$ ,  $p < .001$ . The size of this effect was moderate to large ( $d = -.63$ ). This lowering of alexithymia scores might have been due to the selection bias. It is possible that advertising the study as Emotion Study caused some alexithymic individuals not to participate. Test-retest-reliability and internal consistency in the present study were similar to normative



data. The correlation among the TAS-20 factors is presented in Table 2. The results show that the *Problems identifying feelings* factor correlates lower with the other two factors in the present study than in the normative sample. It is worth noting that in the present study *Problems identifying feelings* showed no relationship with *External orientation*. See Appendix B for the relationship between the TAS-20 and normal personality.

Table 1

Means, Standard Deviations, Reliability, and Internal Consistency of the TAS-20 in Normative Sample and Present Study

	Normative sample			Present study		
	Mean (SD) (N = 389)	Test-retest (N = 72)	Alpha (N = 965)	Mean (SD) (N = 137)	Test-retest (N = 30)	Alpha (N=125)
<b>TAS total</b>	<b>51.14 (10.40)</b>	<b>.77</b>	<b>.81</b>	<b>44.69 (9.85)</b>	<b>.77</b>	<b>.77</b>
TAS IF			.78	12.99 (4.93)	.77	.79
TAS DF	N/A		.75	12.79 (4.41)	.80	.75
TAS EO			.66	18.90 (4.78)	.84	.62

Note. EO = External orientation; IF = Problems identifying feelings; DF = Problems describing feelings. Normative sample from Bagby et al. (1994a). Means reported for male normal subjects. Reliability calculated using the Intraclass Correlation in the present study and using Pearson  $r$  in the normative sample. Test-retest interval was 3 weeks in the normative sample and 4 weeks in the present study.

Table 2

The Relationship Among the TAS-20 Factors in Normative Sample and Present Study

	<u>Normative sample</u>		<u>Present study</u>	
	DF	EO	DF	EO
IF	.51	.18	.41	.01
DF	-	.29	-	.29

Note. IF = Identifying Feelings; DF = Problems describing feelings; EO = External Orientation. Normative sample from Bagby et al. (1994a). After partialing out DF, the correlation between IF and EO in the present study was found to be negative ( $r_p = -.13$ ). All coefficients were calculated using Pearson  $r$ .

The BIQ. The Beth Israel Hospital Questionnaire (BIQ; Sifneos, 1973) is a 17-item scale with a 2-point (0,1) response that can be rated on the basis of a clinical interview. Eight of these items are used to assess alexithymia. A score of 6 is considered alexithymic. Limited amount of research on interrater reliability and validity of the eight BIQ alexithymia items showed inconsistent results (Apfel & Sifneos, 1979; Norton, 1989; Paulson, 1985; Sriram, Pratap, & Shanmugham, 1988; Taylor & Bagby, 1988). See Appendix C for the BIQ questions.

Interrater reliability of the BIQ was inconsistent in past research, ranging from as low as  $r = .08$  (Lolas, Parra, Arosohn, & Collin, 1980) to a high of  $r = .89$  (Sriram, Partap, & Shanmugham, 1988), and low to moderate in the present study ( $ICC = .56$ ). Test-retest reliability in the present study ( $ICC = .52$ ) was lower than that reported in past research ( $r = .72$ ; Sriram, Partap, & Shanmugham, 1988). Internal consistency was similar in past research ( $\alpha = .72$ ; Sriram, Partap, & Shanmugham, 1988) and the present study ( $\alpha = .76$ ). See Appendix C for concurrent validity of the BIQ.

The NEO-FFI. Broad dimensions of normal personality were assessed using the NEO-Five Factor Inventory (NEO-FFI, Costa and McCrae, 1991), an abbreviated version of the widely-used NEO Personality Inventory (NEO-PI, Costa & McCrae, 1985). The NEO-FFI is a 60-item, 5-point self-report measure of the “Big 5” factors that has acceptable reliability and validity for research purposes. It takes about 15 minutes to complete.

As shown in Table 3, the mean scores on the NEO-FFI dimensions of

Openness and Extraversion was higher while the dimension of Conscientiousness was lower than the norms in the present study. The size of these effects was particularly large for Openness ( $d = .92$ ). Again, because the study was advertised as an Emotion Study, it might have drawn more open individuals.

Table 3

Means, Standard Deviations, and Internal Consistency of the NEO-FFI in Normative Sample and Present Study

	<u>Normative sample</u>		<u>Present study</u>	
	<u>M (SD)</u> ( <u>N</u> = 500)	<u>alpha</u> ( <u>N</u> = 1,539)	<u>M (SD)</u> ( <u>N</u> = 123)	<u>alpha</u> ( <u>N</u> = 123)
N	75.2 (19.9)	.92	79.6 (34.6)	.87
E	108.5 (18.5)	.89	116.3 (27.2)	.80
O	110.1 (17.5)	.87	127.9 (27.2)	.78
A	120.1 (16.1)	.86	122.0 (25.6)	.77
C	123.6 (17.4)	.90	117.3 (26.4)	.79

Note: N = Neuroticism; E = Extraversion; O = Openness; A = Agreeableness; C = Conscientiousness. Norms for a sample of male normal subjects (Costa & McCrae, 1992).

The BDI. Alexithymia scores may be affected by the individual level of distress (Barnett, & Gotlib, 1988; Haviland, MacMurray, & Cummings, 1988). Psychological distress was assessed using the Beck Depression Inventory (BDI, Beck, 1978), a 21-item, 4-point scale that is used widely and has good psychometric properties (Beck, Steer, & Garbin, 1988). The mean BDI Total score of the 123 participants in the present study ( $M = 6.45$ ,  $SD = 5.78$ ) was lower than in the normative student sample ( $M = 12.56$ ,  $SD = 9.93$ ; Beck, Steer, & Brown, 1996;  $t(241) = -6.05$ ,  $p < .001$ ). The internal consistency of the entire scale was lower in the present study than in the normative sample ( $\alpha = .85$  and  $\alpha = .93$ , respectively).

The EQ-i. Emotional intelligence was assessed using the Emotional Quotient Inventory (EQ-i, Bar-On, 1996). This instrument was validated in Israel and South Africa (Bar-On, 1996) and is currently being validated at a number of American sites. This self-report is a 133-item, 5-point scale which taps five areas of emotional functioning: Intra-Personal, Inter-Personal, Adaptability, Stress Management, and General Mood. The scale takes approximately 25 minutes to complete.

The following were the means and standard deviations of the standardized scores (100, 15) for the EQ-i Total and five subscales in the present study ( $N = 119$ ): EQ-i Total,  $M = 94.4$  ( $SD = 14.8$ ); Intrapersonal,  $M = 95.7$  ( $SD = 15.7$ ); Interpersonal,  $M = 94.8$  ( $SD = 15.8$ ); Adaptability,  $M = 95.3$  ( $SD = 13.9$ ); Stress management,  $M = 95.5$  ( $SD = 16.0$ ); General mood,  $M = 95.5$  ( $SD = 17.1$ ). As these results show, the present sample scored lower than the normative sample on the

EQ-i. The size of all these effects was medium. As the EQ-i was scored by the test publisher, no internal consistency data were available for the present sample.

## Results

### Data Analytic Strategies

The present study was the first step in the development of the Structured Interview for Alexithymia (SIFA). Consequently, the main psychometric issue to consider was the behavior of the SIFA items in terms of the distribution, interrater and test-retest reliability, and concurrent and convergent/discriminant validity. In addition, an analysis of the dimensionality of the scale was conducted. The SIFA items were scored using 3- and 7-point scales. If not otherwise specified, the results are presented using the 7-point scale.

### Descriptive Statistics

As shown in Table 4 and Figures 1 through 14, the mean and variance of Item 1 (*Physical complaints*) was very low and consequently the skewness and kurtosis indexes were very high. Due to the lack of variability, no further statistics were calculated for Item 1. Other items that had a low mean and violated normality were Items 2 (*Describe circumstances*), 10 (*Interpreting physiological arousal*), and 13 (*Inappropriate words*). Items 7 (*Distinguishing emotions*) and 8 (*Understanding reasons*) also showed some positive skewness. These results were expected given the population of normal subjects. Importantly, a preliminary analysis showed that



the Total scores of the 12-item SIFA (excluding Item 1) were normally distributed.

Table 4

Descriptives for the SIFA Items

Item	Mean ( <u>SD</u> )	Mean ( <u>SD</u> )	Skew ( <u>SE</u> )	Kurtosis( <u>SE</u> )
	0-2 scale	0-6 scale	0-6 scale	0-6 scale
1. Physical complaints	.02 (.15)	<b>.12 ( .53)</b>	<b>5.59 (.21)</b>	<b>30.11 (.41)</b>
2. Circumstances or details	.31 (.56)	<b>1.06 (1.56)</b>	<b>1.54 (.21)</b>	<b>1.52 (.41)</b>
3. Affective paucity	.55 (.69)	<b>1.71 (1.88)</b>	<b>.76 (.21)</b>	<b>-.71 (.41)</b>
4. Action	.53 (.62)	<b>1.78 (1.66)</b>	<b>.58 (.21)</b>	<b>-.58 (.41)</b>
5. Fantasy	.60 (.71)	<b>1.86 (1.90)</b>	<b>.70 (.21)</b>	<b>-.72 (.41)</b>
6. External orientation	.68 (.72)	<b>2.07 (1.98)</b>	<b>.40 (.21)</b>	<b>-1.21 (.41)</b>
7. Distinguish emotions	.45 (.64)	<b>1.42 (1.74)</b>	<b>1.04 (.21)</b>	<b>-.02 (.41)</b>
8. Understand reasons	.40 (.57)	<b>1.19 (1.45)</b>	<b>1.08 (.21)</b>	<b>.23 (.41)</b>
9. Inappropriate affect	.42 (.56)	<b>1.42 (1.48)</b>	<b>.78 (.21)</b>	<b>-.50 (.41)</b>
10. Interpret physiological	.24 (.52)	<b>.71 (1.36)</b>	<b>2.00 (.21)</b>	<b>3.23 (.41)</b>
11. Communication deficit	.73 (.79)	<b>2.29 (2.10)</b>	<b>.38 (.21)</b>	<b>-1.29 (.41)</b>
12. Lack of words	.53 (.72)	<b>1.72 (1.99)</b>	<b>.72 (.21)</b>	<b>-.99 (.41)</b>
13. Inappropriate words	.17 (.41)	<b>.70 (1.25)</b>	<b>2.03 (.21)</b>	<b>3.60 (.41)</b>
<b>SIFA Total (12 items)</b>	<b>5.66 (4.28)</b>	<b>17.91 (11.89)</b>	<b>.51 (.21)</b>	<b>-.34 (.41)</b>

Note. N=139

Figure 1

## Distribution of SIFA Item 1

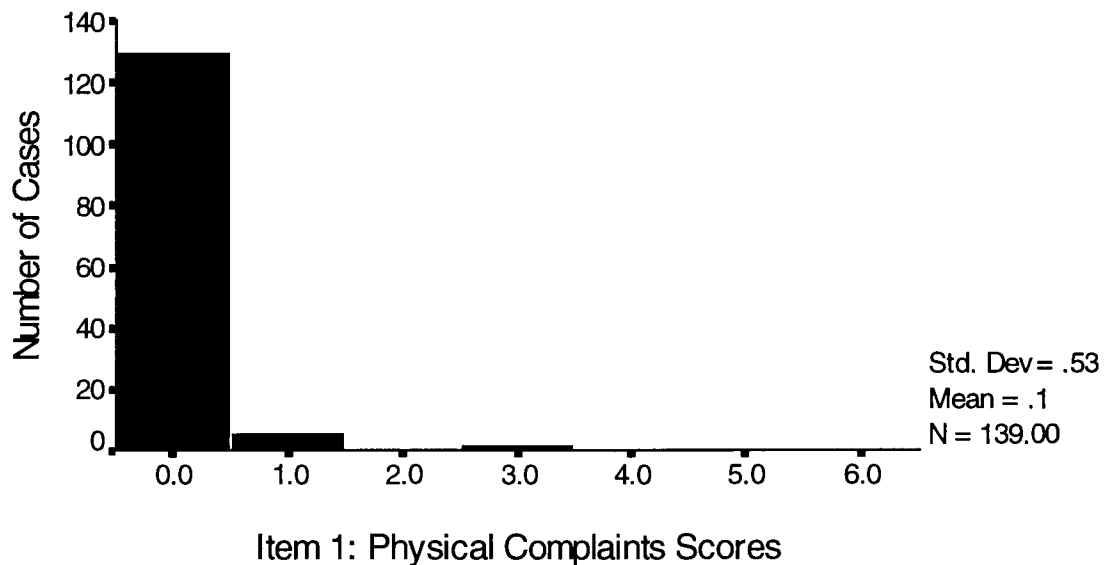


Figure 2

## Distribution of SIFA Item 2

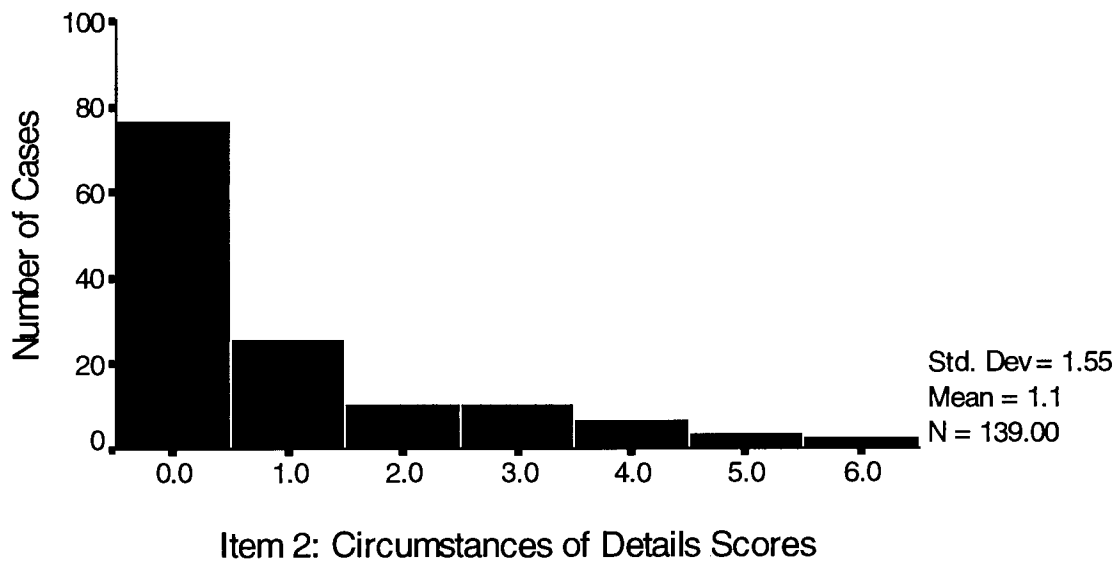


Figure 3

## Distribution of SIFA Item 3

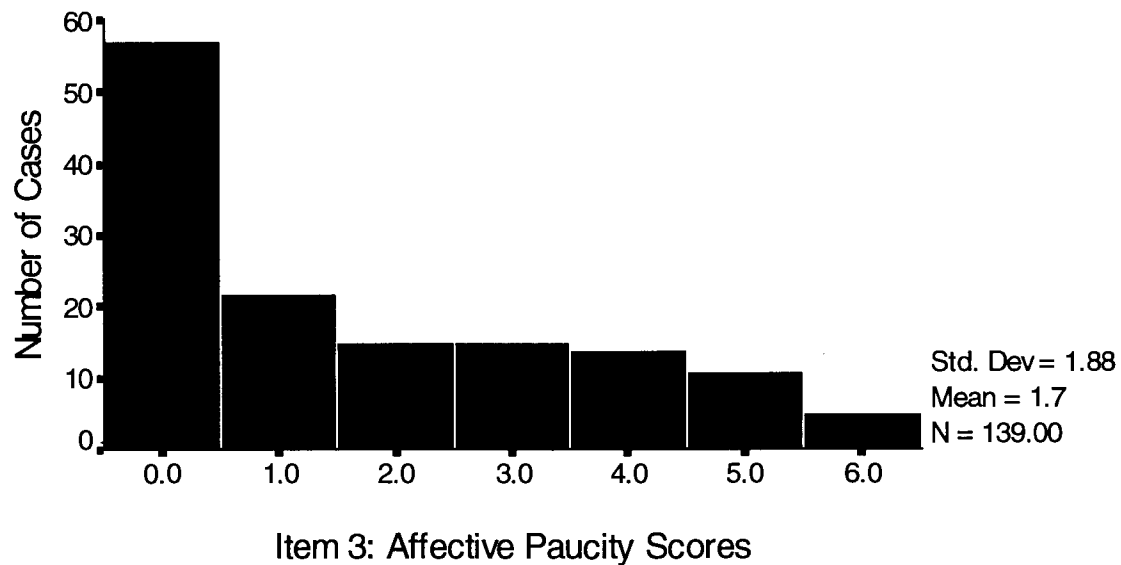


Figure 4

## Distribution of SIFA Item 4

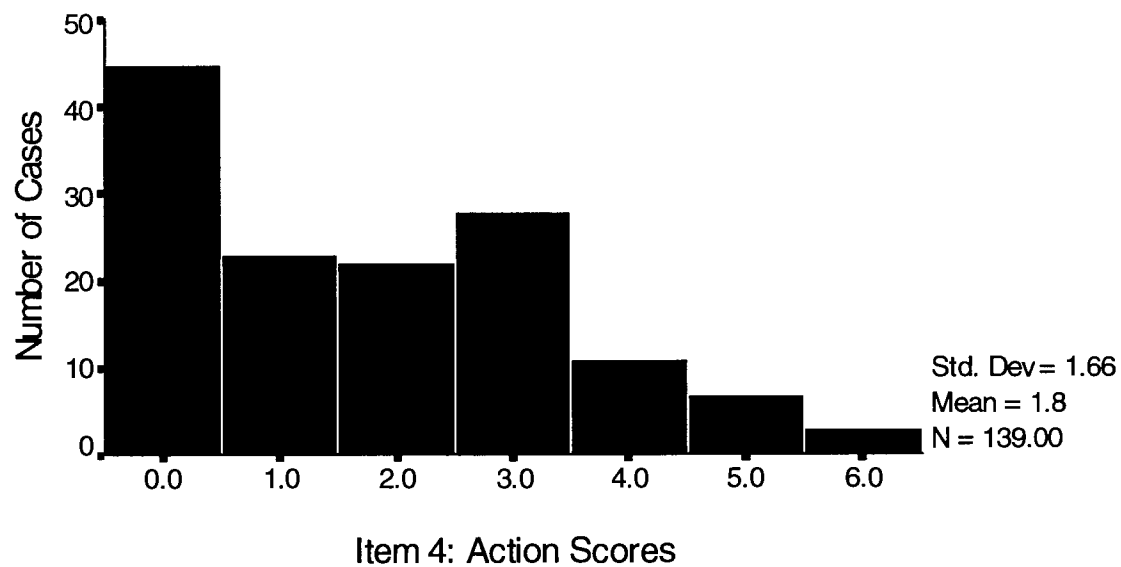


Figure 5

## Distribution of SIFA Item 5

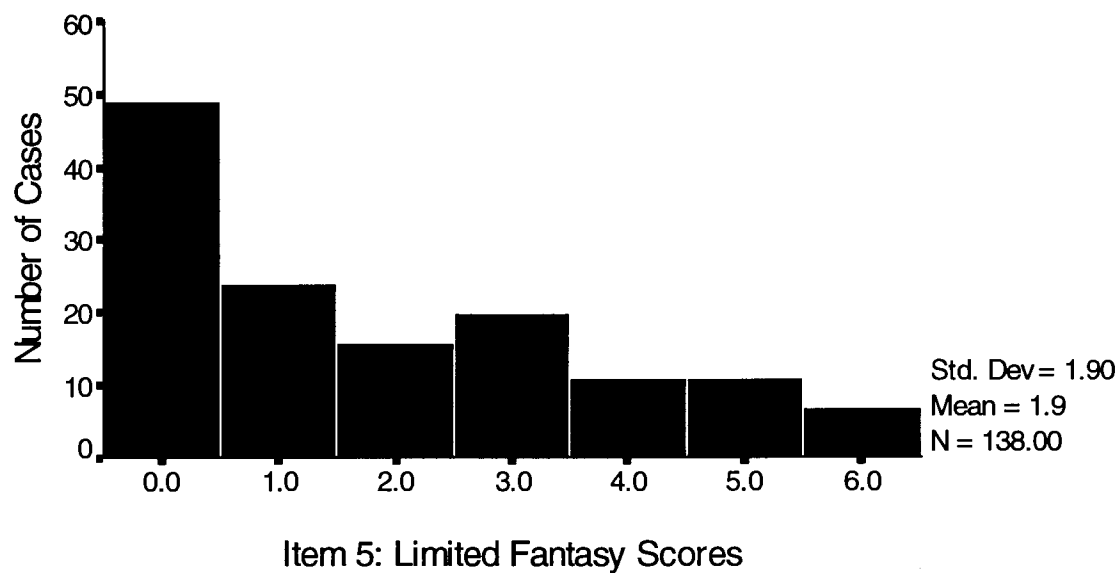


Figure 6

## Distribution of SIFA Item 6

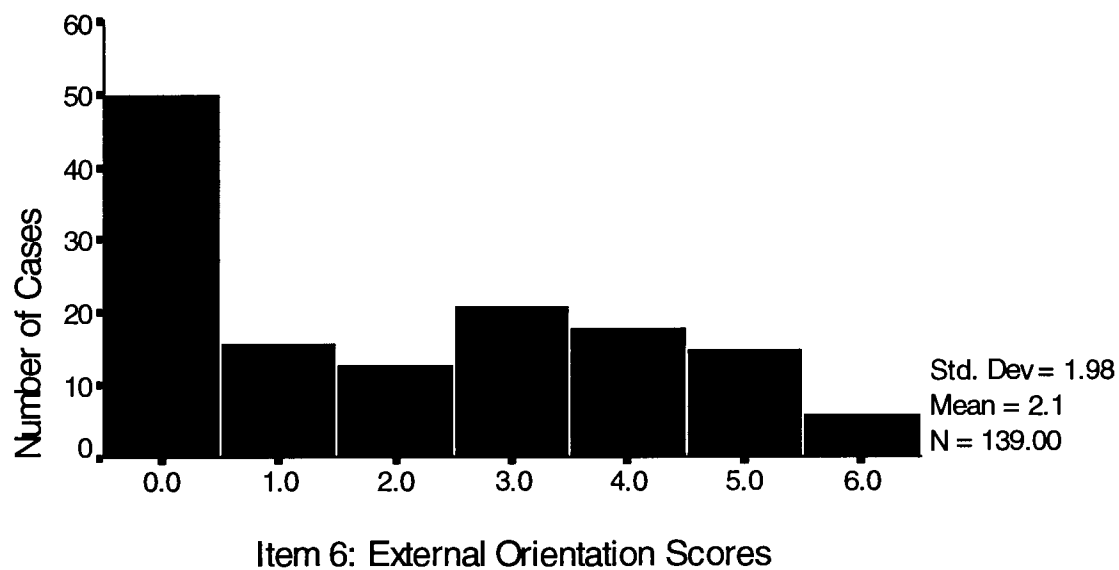


Figure 7

## Distribution of SIFA Item 7

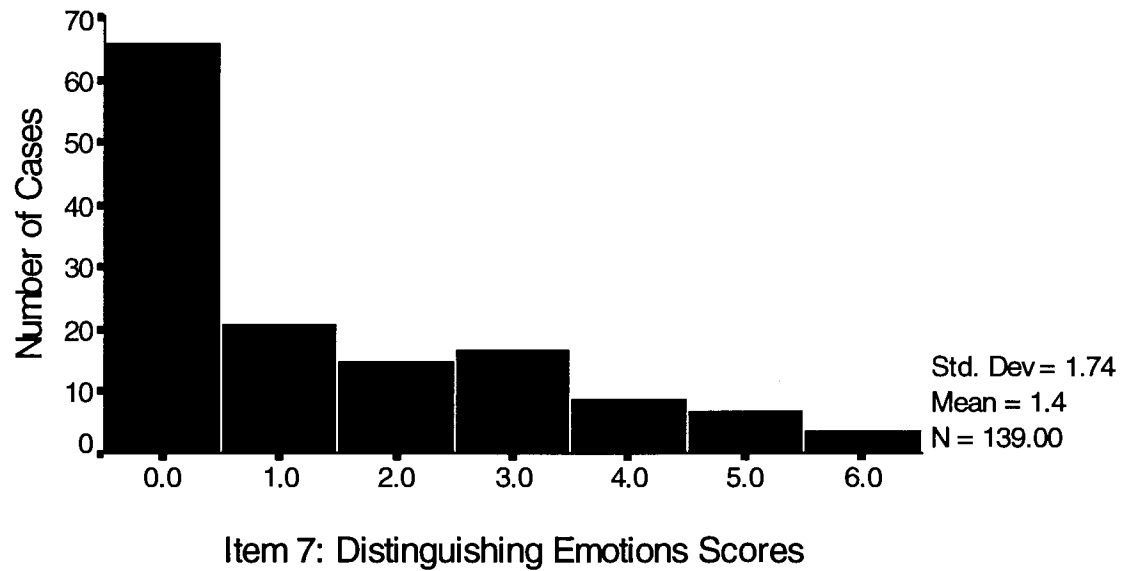


Figure 8

## Distribution of SIFA Item 8

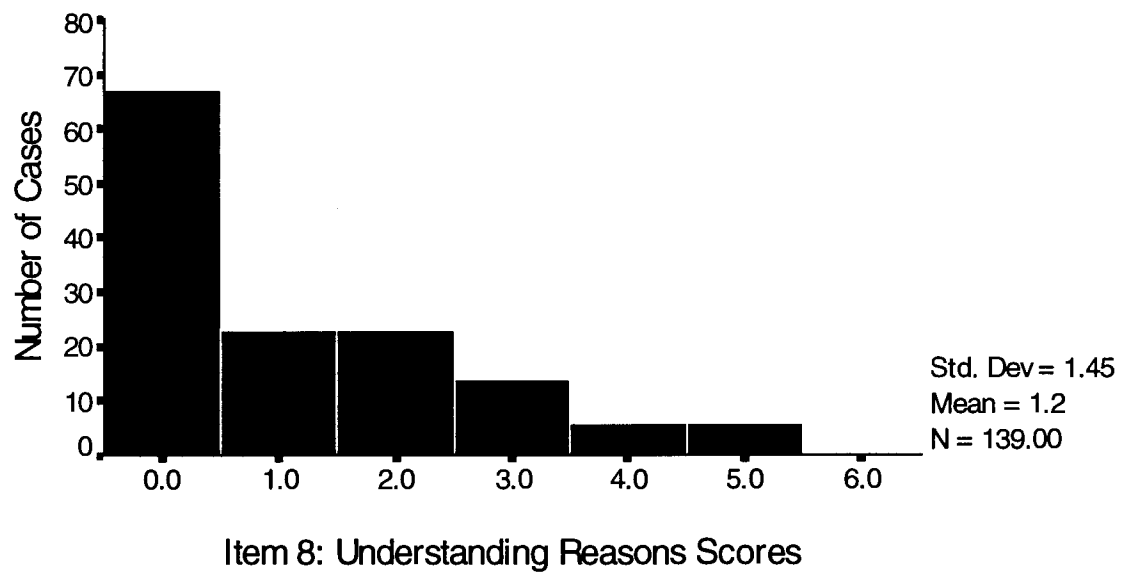


Figure 9

## Distribution of SIFA Item 9

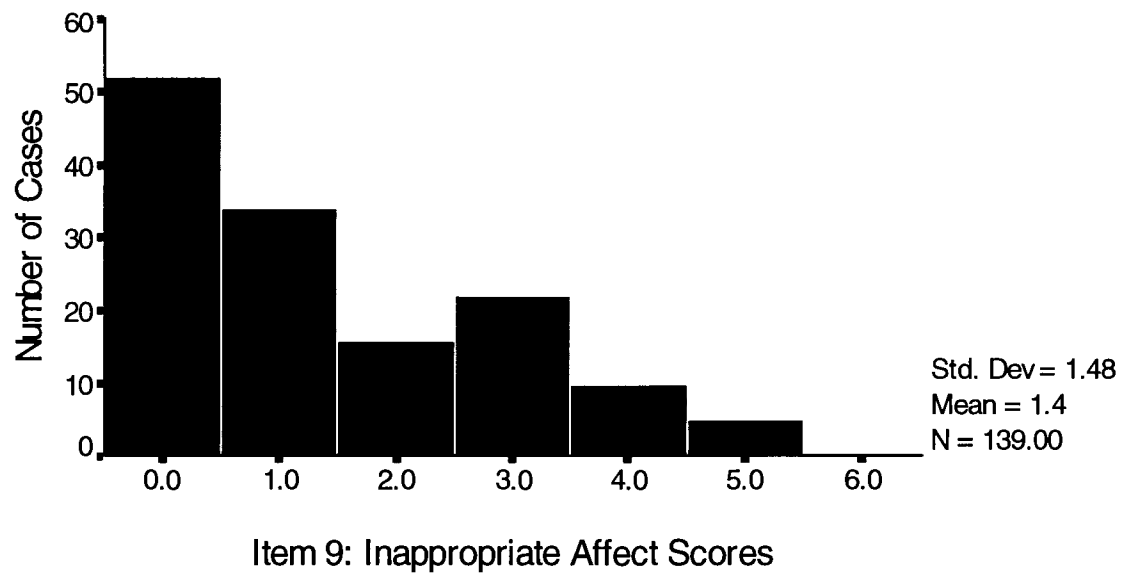


Figure 10

## Distribution of SIFA Item 10

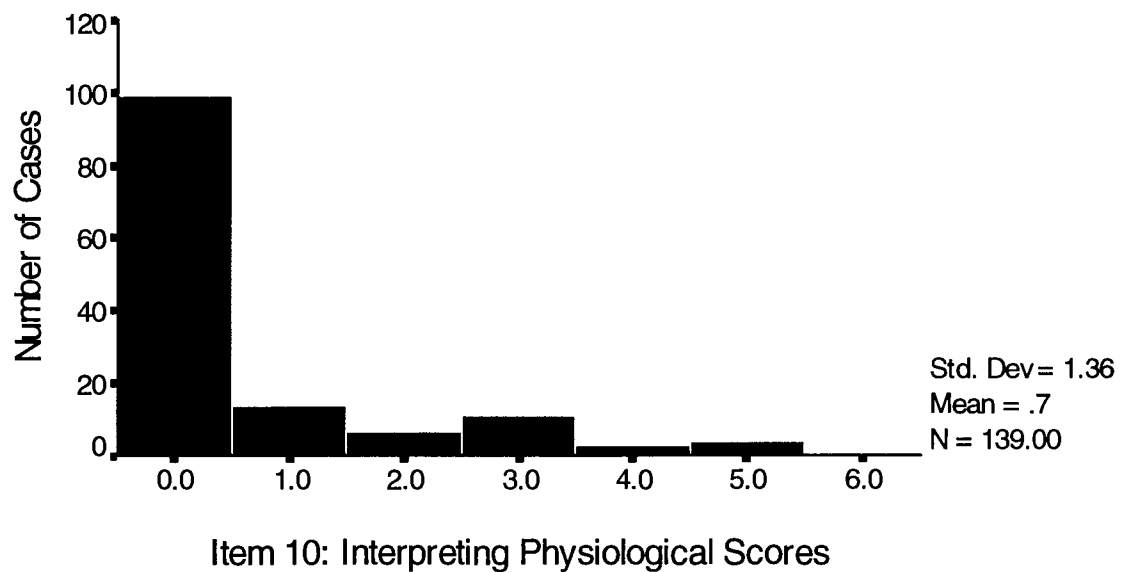
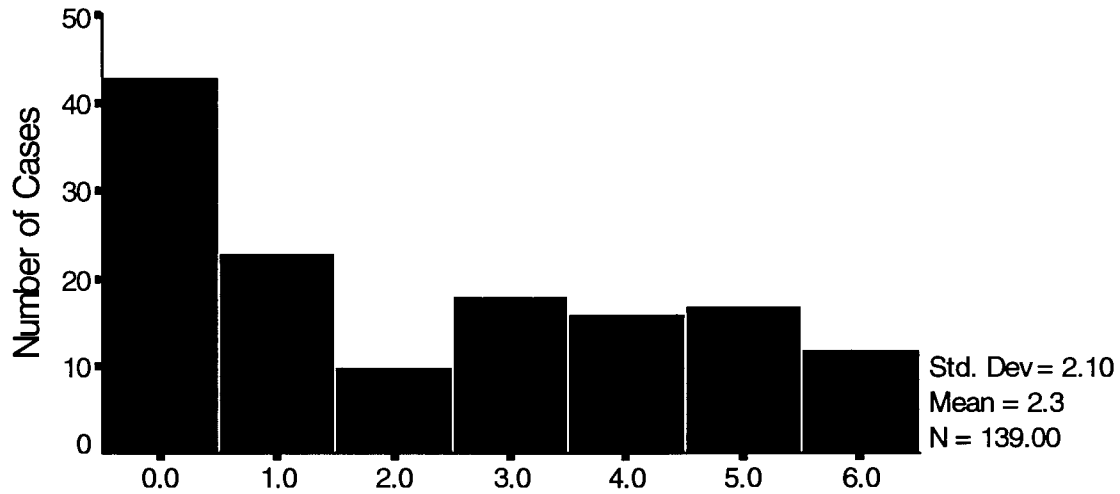


Figure 11

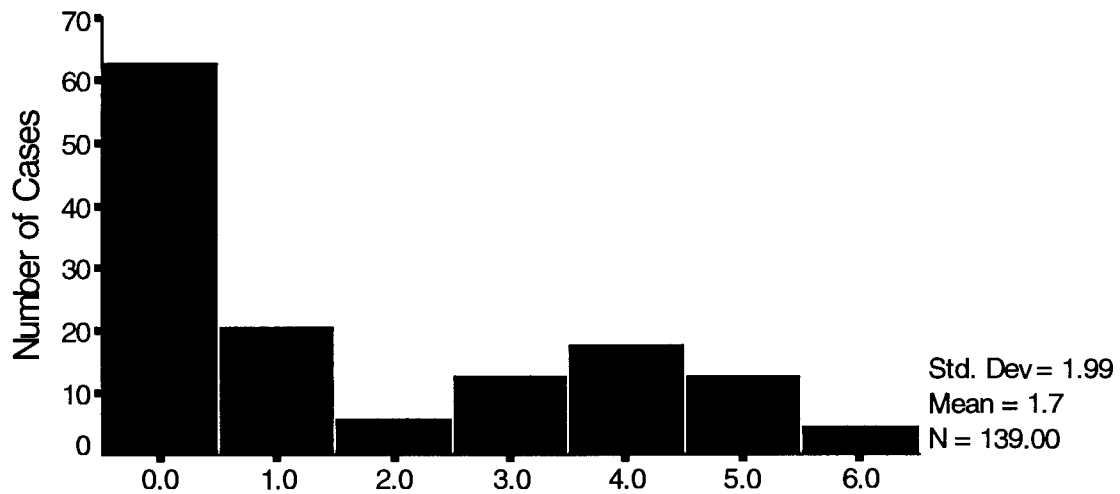
## Distribution of SIFA Item 11



Item 11: Communication Deficit Scores

Figure 12

## Distribution of SIFA Item 12



Item 12: Lack of Words Scores



Figure 13

## Distribution of SIFA Item 13

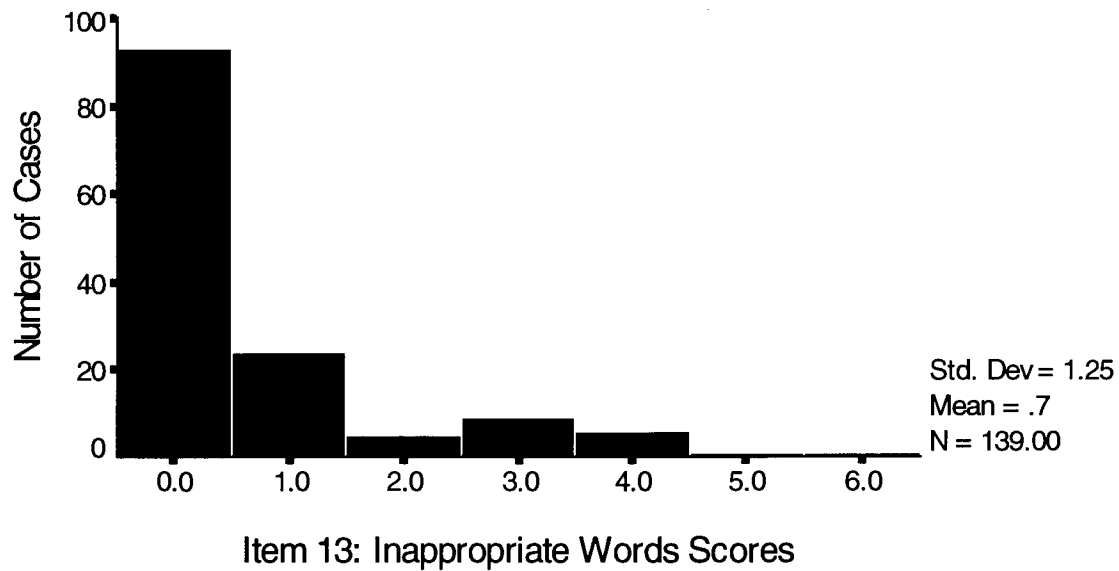
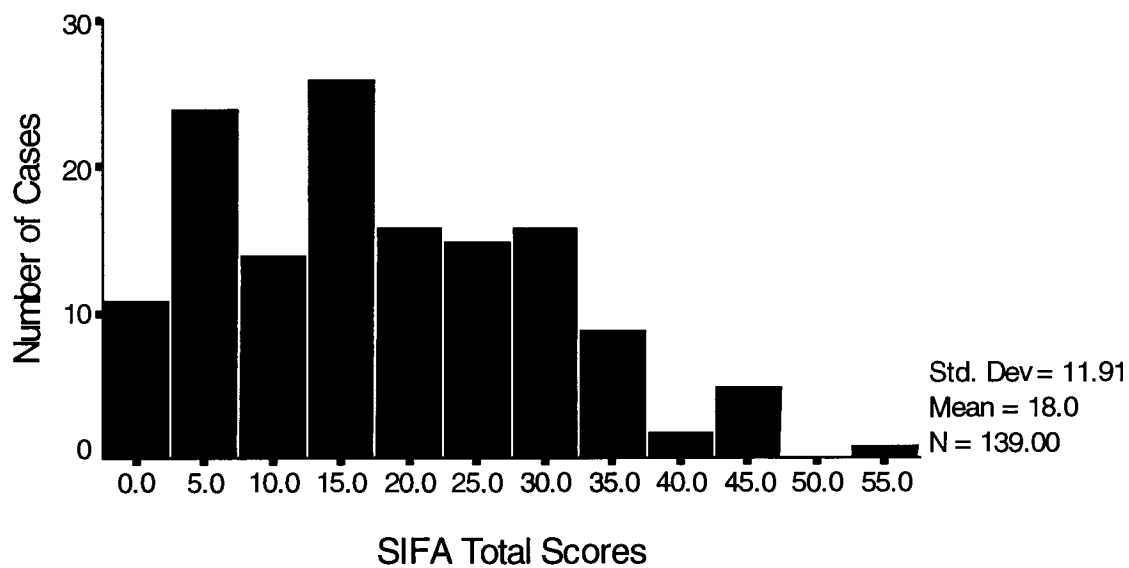


Figure 14

## Distribution of SIFA Total



### Interrater Reliability, Test-retest Reliability, and Internal Consistency

Reliability of the SIFA items was assessed using the Intraclass Correlation Coefficient (ICC; Shrout & Fleiss, 1979). Ten participants who were rated lower than 3 on rater's validity checks for either one of the two ratings were excluded. The most common reason for low validity ratings was the low quality of video-recording. As shown in Table 5, the coefficients were typically higher for the 7-point scale than for the 3-point scale. Consequently, the 7-point scale was used in all subsequent analysis. In future use, the SIFA should also be scored using the 7-point scale.

Interrater reliability was either acceptable or excellent for all items except Item 2 (*Describe circumstances*; ICC = .20). Future revision of the scoring criteria might remedy this issue. The interrater reliability of the SIFA Total score (ICC = .80) was excellent for research purposes and moderate to excellent for clinical assessment (Murphy & Davidshofer, 1994).

Test-retest reliability was excellent or adequate for all items except Item 2 (*Describe circumstances*; ICC = .11), Item 4 (*Action*; ICC = -.04), Item 8 (*Understanding reasons*; ICC = .25), Item 9 (*Inappropriate affect*; ICC = .13), and Item 13 (*Inappropriate words*; ICC = .25). The following are potential explanation for the inadequacy of these test-retest reliability coefficients. First, test-retest reliability is attenuated by the unreliability due to items and raters. Especially item 2 and 9 test-retest coefficients are likely affected by low interrater reliabilities. Second, the same interview questions were used for both interviews. A more adequate methodology would include the employment of an alternate form of the SIFA

interview. Finally, the interview itself might have served as a form of intervention by making some students reflect upon their emotional style and thus increasing their psychological mindedness. Partial support for this explanation was provided by the lowering of the SIFA Total score between the first ( $M = 16.83$ ,  $SD = 14.09$ ) and second ( $M = 12.97$ ,  $SD = 11.47$ ) interview,  $t(29) = 2.55$ ,  $p < .05$ . The size of this effect was medium ( $d = .47$ ). In addition to providing a partial explanation to the test-retest problem, these results may challenge the claim that alexithymia is a stable personality trait. The plausibility of these claims should be considered in future research. Regardless of less-than-satisfactory test-retest reliability for a number of items, the SIFA Total score showed high test-retest reliability ( $ICC = .81$ ).

As shown in Table 5, overall internal consistency of the 12 SIFA items was high ( $\alpha = .82$ ). Mean item-item Pearson  $r$  correlation was .26. Pearson corrected item-total correlations were moderate to high for all items except Item 10 ( $r = .10$ ).

Table 5

Interrater Reliability, Test-retest Reliability, and Corrected Item-total Correlations of the SIFA Items

Item	Interrater (ICC) $n = 42$		Test-retest (ICC) $n=25$		Item-total (r) $n=139$ 0-6
	0-2	0-6	0-2	0-6	
2. Circumstances or details	.09	<b>.20</b>	.08	<b>.11</b>	<b>.36</b>
3. Affective paucity	.70	<b>.82</b>	.78	<b>.72</b>	<b>.63</b>
4. Action	.50	<b>.72</b>	-.23	<b>-.04</b>	<b>.39</b>
5. Fantasy	.65	<b>.69</b>	.68	<b>.75</b>	<b>.50</b>
6. External orientation	.76	<b>.83</b>	.80	<b>.83</b>	<b>.60</b>
7. Distinguish emotions	.74	<b>.84</b>	.63	<b>.67</b>	<b>.43</b>
8. Understand reasons	.68	<b>.82</b>	.42	<b>.25</b>	<b>.32</b>
9. Inappropriate affect	.39	<b>.45</b>	-.19	<b>.13</b>	<b>.50</b>
10. Interpret physiological	.39	<b>.64</b>	.57	<b>.70</b>	<b>.10</b>
11. Communication deficit	.61	<b>.67</b>	.70	<b>.77</b>	<b>.65</b>
12. Lack of words	.56	<b>.66</b>	.68	<b>.83</b>	<b>.61</b>
13. Inappropriate words	.47	<b>.71</b>	.15	<b>.25</b>	<b>.50</b>
SIFA total (12 items)	.69	<b>.80</b>	.75	<b>.81</b> (alpha)	<b>.82</b>

Note. Due to the lack of variability, the coefficients for Item 1 were not calculated.

## Dimensionality of the SIFA

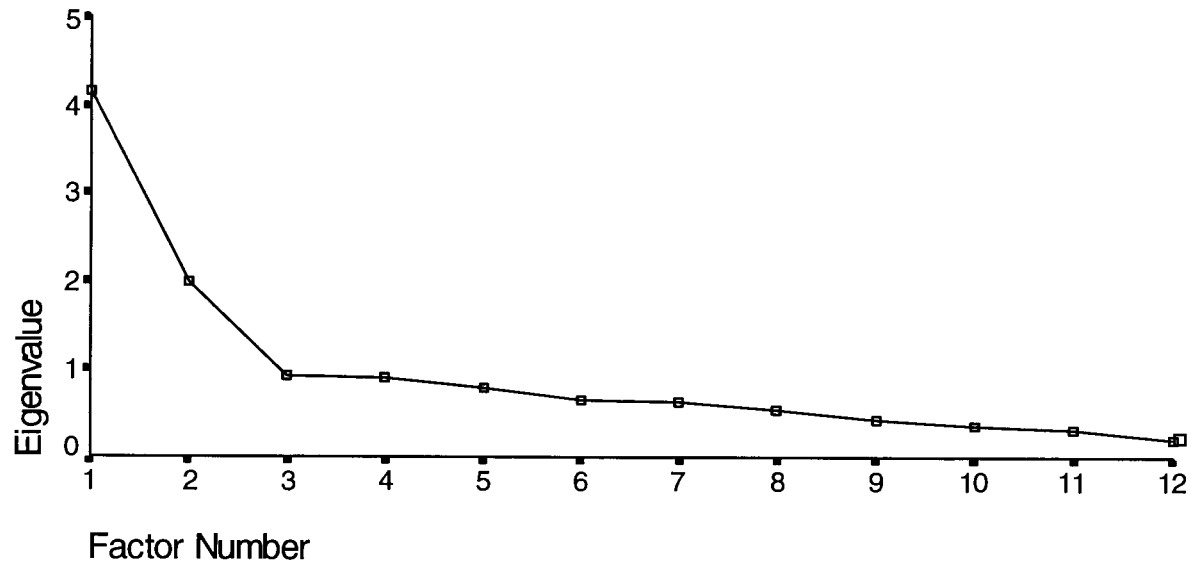
Controlling for multivariate outliers and the *difficulty factor*. To control for multivariate outliers, Mahalanobis distances were calculated for each person. Using  $p < .001$  as a criterion (Tabachnick & Fidell, 1989), one person was excluded from the analysis. All the analyses of dimensionality were performed using the matrix of Pearson  $r$  correlations among the SIFA items. However, to avoid the possibility that the factor solutions would partially reflect the differences in the distribution of the items, a matrix of polychoric correlations (PC) was computed. PCs recover the underlying normal distribution and are thus insensitive to differences in item difficulty. In order to use PCs, the assumption of multivariate normality has to be met. The test of close fit using the Root Mean Square Error of Approximation (RMSEA) showed no violation of normality for any pairs of the SIFA items (0% of PCs exceeded  $p > .05$ ). Hence, all the analyses performed on the Pearson  $r$  matrix were repeated with the PC matrix.

Confirmatory factor analysis. Confirmatory factor analysis was performed to assess the goodness-of-fit of the data to the hypothesized 3-factor model for the SIFA. The correlation matrix was analyzed using confirmatory Maximum Likelihood factor analysis with LISREL 8.12a (Joreskog & Sorbom, 1993). Confirmatory factor analysis provides multiple goodness-of-fit indexes. As recommended by Browne (1993), the Root Mean Square Error of Approximation (RMSEA) was used in the present study. The RMSEA assesses the fit of the model per parameter and, as such, can be used directly to compare models with a different number of parameters. The

RMSEA is also accompanied by the test of the significance of the fit. When the RMSEA is significant the hypothesis of fit is rejected. The present results suggested that the data did not fit the hypothesized 3-factor model (RMSEA = .11,  $p < .001$  with  $r$ ; RMSEA = .15,  $p < .001$  with PC).

Exploratory factor analysis. Due to the failure to confirm the hypothesized 3-factor structure, exploratory analysis of the SIFA dimensionality was performed. First, four Principal Component Analyses were performed with  $r$  and PC matrixes, using oblique (Direct Oblimin) and orthogonal (Varimax) rotation. The Scree Plot shown in Figure 15 suggested that two dimensions best describe the present data. Consequently, a 2-component solution, based on the Kaiser-Guttman criterion and the Scree test, was calculated. The two components accounted for 51% of variability in the data set using Pearson  $r$  correlation matrix and 57% of variance using PC matrix. As shown in Table 6, all four analyses showed a similar pattern of component loadings.

Figure 15  
The SIFA Factor Scree Plot



The above four exploratory analyses were repeated using Common Factor Analysis (Maximum Likelihood). In contrast to Principal Component Analysis, Common Factor Analysis does not use all variance but removes unique variance of each item. Component Analysis is considered more adequate for an initial consideration of the dimensionality of a data set, whereas Common Factor Analysis is considered more adequate for theoretical considerations of latent dimensions. The difference between the two methods is especially marked when the items have a large proportion of unique variance. As shown in Table 6, the pattern of factor loadings for Common Factor Analysis was similar to that of Component Analysis.



## Component and Factor Loadings for the SIFA 12 Items

MATRICES USED	Principal Component Analysis						Common Factor Analysis									
	Pearson $r$			PC			Pearson $r$			PC						
	OBL	ORT	EO IF	OBL	ORT	EO IF	OBL	ORT	EO IF	OBL	ORT	EO IF				
2. Circumstances	.51	-.05	.50	.02	.54	.04	.54	.12	.41	-.04	.40	.02	.45	.02	.44	.09
3. Affective Paucity	.79	.03	.78	.13	.83	-.01	.82	.11	.76	.02	.76	.13	.82	.13	.81	.10
4. Action	.41	.17	.42	.22	.46	.18	.47	.24	.34	.16	.35	.21	.38	.22	.40	.24
5. Fantasy	.77	-.14	.75	-.04	.77	-.15	.75	-.04	.68	-.10	.66	.00	.67	-.04	.65	.02
6. External orient.	.84	-.09	.82	.01	.88	-.14	.85	-.01	.80	-.08	.78	.04	.84	.01	.82	.02
7. Distinguish	.22	.57	.27	.59	.28	.56	.33	.60	.22	.45	.26	.48	.27	.59	.32	.51
8. Understand	-.11	.87	-.04	.85	-.11	.90	-.03	.88	-.11	.87	-.02	.85	-.12	.85	-.01	.89
9. Inappr. affect	.22	.68	.28	.71	.22	.72	.29	.75	.21	.62	.27	.64	.21	.71	.28	.71
10. Interpret phys.	-.25	.60	-.19	.56	-.24	.67	-.17	.63	-.16	.43	-.11	.40	-.15	.56	-.10	.47
11. Communication	.79	.06	.79	.17	.83	-.01	.82	.11	.79	.04	.79	.16	.83	.17	.81	.12
12. Lack of words	.65	.21	.66	.29	.67	.23	.68	.32	.61	.13	.62	.22	.64	.29	.64	.27
13. Inappr. words	.26	.63	.32	.67	.36	.64	.41	.69	.26	.54	.32	.57	.34	.67	.40	.64
Factor correlations	.22	.49	.49	.24	.24	.51	.25	.49	.27	.56	.27	.56	.27	.56	.27	.56

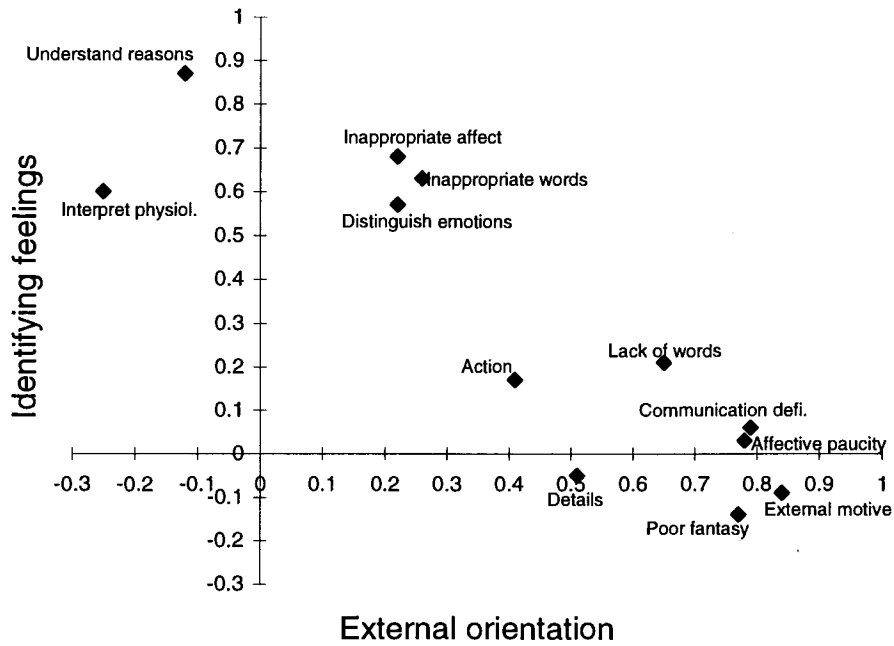
Note. IF = Problems Identifying Feelings; EO = External Orientation; OBL = Oblique rotation; ORT = Orthogonal rotation; PC =

Polychoric.

In conclusion, regardless of the type of analysis (Common Factor or Component), the type of rotation (oblique or orthogonal), or the use of the Pearson  $r$  or PC matrices, the pattern of loadings of the 12 SIFA items on the two factors was very similar. Items 2, 3, 4, 5, 6, 11, and 12 loaded on the first dimension whereas Items 7, 8, 9, 10, and 13 loaded on the second dimension. The loadings of items 1 through 10 were as hypothesized. Items 1 through 6 constituted the *External orientation* dimension of the SIFA. Items 7 through 10 constituted the *Problems identifying feelings* dimension of the SIFA. Item 11 (*Communication deficit*) and Item 12 (*Lack of words*) loaded on *External orientation*, whereas Item 13 (*Inappropriate words*) loaded on *Problems identifying feelings*. With the exception of Item 13, all items loaded distinctly on only one SIFA dimension. The factor correlations using the oblique rotations ranged from .22 to .27, which further suggests strong distinctiveness of the two components. A graphical example of factor loadings for the SIFA items (Principal Component with oblique rotation using the Pearson  $r$  correlation matrix) is presented in Figure 16.

## Figure 16

Principal Component loadings for the SIFA dimensions.



Comparing the two- and three-dimension solutions. In order to directly compare the 2- and 3-factor solutions for the SIFA, Maximum Likelihood exploratory (no imposed constraints on the model) analyses were performed with LISREL 8.12a (Joreskog & Sorbom, 1993). The advantage of using LISREL lies in the fact that it generates the Root Mean Square Error of Approximation (RMSEA) goodness-of-fit index. As the RMSEA assesses the fit of the model *per parameter*, it can be used directly to compare models with a different number of parameters. The results indicated that a 2-factor solution presented a reasonably good fit to the data (RMSEA = .07,  $p = .08$ ) with the Pearson  $r$  matrix, but poor fit (RMSEA = .11,  $p < .001$ ) with the PC matrix. As the 3-factor solution failed to converge after 135 iteration, using either the Pearson  $r$  or PC matrix, direct comparison of the two models was not possible. Another attempt to directly compare the 2- and 3-factor solutions was made by calculating the  $\chi^2_{diff}$  using the Maximum Likelihood analysis. Again, because one or more communalities were higher than 1 and thus some estimates of error variance were negative, the estimation of the  $\chi^2$  for the three-factor solution was not possible.

The present difficulty in obtaining a 3-factor solution may be due either to the inappropriateness of the 3-factor model or to random sampling fluctuation. However, there is no way to determine which explanation is correct. This situation is known as a Heywood case (Dillon & Kumar, 1987). Thus, the present results might, but do not necessarily, indicate that the 3-factor solution was inappropriate. An alternative explanation was the possibility that the third dimension was not adequately sampled by the SIFA items. A replication of the present results with a different sample may

provide further answers regarding the dimensionality of the SIFA.

Finally, it is worth noting that the fit of a 2-factor solution in the exploratory analysis was better than the fit of a 3-factor solution in the confirmatory analysis,  $\chi^2$  diff (8) = 54.93,  $p < .001$  with  $r$  and  $\chi^2$  diff (8) = 87.71,  $p < .001$  with PC. However, because it is not clear how much the fit of the model was affected by fixing a number of parameters at zero in the confirmatory model, these results should be interpreted with caution.

How many dimensions best describe the SIFA? Overall, on the basis of the present data, no final answer regarding the dimensionality of the SIFA could be given. The main problem was an inability to directly compare the 2- and the 3-factor solutions. However, a number of results suggested that two dimensions might best describe the SIFA structure. First, confirmatory factor analysis showed inadequate fit of the 3-factor solution, and exploratory analyses with the three factors failed to converge. Second, Principal Component Analysis provided firm evidence that the present data were best modeled by two components. This was indicated by both the Scree plot and the lack of double-loading items. Third, Common Factor Analysis showed that the 2-factor model had a reasonable fit with the data, at least using the Pearson  $r$  correlation matrix. Fourth, the pattern of component or factor loadings was similar for Principal Component or Common Factor Analysis using orthogonal or oblique rotations with either the Pearson  $r$  or PC matrices. Finally, the correlations between the two components ranged from .22 to .27 for the oblique rotation, which was indicative of a strong distinctiveness of the two SIFA components. Thus, at

present, the SIFA is best conceptualized as a 2-dimensional scale comprising of the *External orientation* and *Problems identifying feelings* dimensions.

### Validity

All validity indexes were calculated using Pearson  $r$ . Concurrent validity was obtained by measuring the relationship between the SIFA items and the TAS-20 Total score, the TAS-20 factor scores, and the BIQ. Convergent/discriminant validity was determined by measuring the relationship between the SIFA items and other personality and clinical measures (BDI, NEO-FFI, and EQ-i).

Concurrent validity. As shown in Table 7, all SIFA items showed adequate to excellent concurrent validity. The generally higher correlations with the BIQ than with the TAS-20 were expected given the method factor (i.e., the BIQ like the SIFA is a rating scale whereas the TAS-20 is a self-report measure) and the fact that the BIQ and SIFA were both scored by the same raters on the basis of the same interview. In addition to this discrepancy, there was some divergence in how the items correlated with the two criteria. Item 8 (*Understanding reasons*) and 10 (*Interpreting physiological arousal*) showed no correlation with the BIQ but both correlated with the TAS-20, especially with the *Problems identifying feelings* factor of the TAS-20. Conversely, Item 2 (*Describe circumstances*) and Item 5 (*Fantasy*) were not correlated with the TAS-20 but were correlated with the BIQ. Interestingly, only one (Item 12; *Lack of words*) of the seven SIFA items which constituted the *External orientation* dimension was significantly related to the *Problems identifying feelings* factor of the TAS-20. Similarly, only one (Item 13; *Inappropriate words*) of the five

items which constituted the *Problems identifying feelings* component of the SIFA showed a significant correlation with the TAS-20 *External orientation* factor.

The results of concurrent validity were more succinctly explained by considering the two SIFA dimensions. The scores for *Problems identifying feelings* and *External orientation* dimensions were calculated by linearly combining the items which loaded on each dimension. The correlations between the SIFA dimensions and the TAS-20 Total and factor scores and the BIQ scores were calculated. As shown in Table 7, the *Problems identifying feelings* dimension of the SIFA correlated with the *Problems identifying feelings* but not with the *External orientation* factor of the TAS-20. Similarly, the *External orientation* dimension of the SIFA showed a correlation with the *External orientation* but not with the *Problems identifying feelings* factor of the TAS-20. Further, the *External orientation* dimension of the SIFA showed a very high correlation with the BIQ, which suggests that the BIQ measures almost exclusively the *External orientation* dimension of alexithymia. These results provided further concurrent validity for the proposed two-dimensionality of the SIFA as well as construct validity evidence for the two-dimensionality of the construct of alexithymia.

Convergent/discriminant validity. Convergent/discriminant validity results are presented in Table 8. As expected, Item 8 (*Understanding reasons*) and Item 10 (*Interpreting physiological arousal*) showed a positive correlation with the BDI and the Neuroticism dimension of the NEO-FFI. However, unexpectedly, it was found that Items 2 (*Describing circumstances*), 5 (*Fantasy*), and 6 (*External orientation*)

negatively correlated with the BDI and Neuroticism. Item 3 (*Affective paucity*) also negatively correlated with Neuroticism. Also, as expected, a number of items (2 - *Describing circumstances*, 3 - *Affective paucity*, 5 - *Fantasy*, 6 - *External orientation*, 11 - *Communication deficit*, and 12 - *Lack of words*) showed negative correlations with the Openness dimension of the NEO-FFI. Further, as predicted, Items 7 (*Distinguishing emotions*), 8 (*Understanding reasons*), 10 (*Interpreting physiological arousal*), and 11 (*Communication deficit*) negatively correlated with the Intra-Personal dimension of the EQ-i. Item 2 (*Describing circumstances*) was surprisingly found to correlate positively with the Intra-Personal dimension of the EQ-i.

All the above results of convergent/discriminant validity on the item level were again best explained by considering the SIFA two dimensions. As shown in Table 8, the *Problems identifying feelings* dimension of the SIFA correlated negatively with the EQ-i Total score as well as a number of EQ-i scales, while the *External orientation* dimension showed no correlation with the EQ-i. Further, the *External orientation* dimension of the SIFA was negatively correlated with the Neuroticism and Openness scales of the NEO-FFI, whereas the *Problems identifying feelings* dimension of the SIFA did not correlate with these scales. These results further strengthened my contention that the SIFA two dimensions are distinct.



Table 7

Concurrent Validity of the SIFA Items

	TAS				BIQ
	Total	IF	DF	EO	
<b>SIFA Total</b>	<b>.49***</b>	<b>.21**</b>	<b>.39***</b>	<b>.45***</b>	<b>.81***</b>
<b>SIFA EO</b>	<b>.36***</b>	<b>-.01</b>	<b>.31***</b>	<b>.48***</b>	<b>.86***</b>
2. Circumstances	.01	-.07	-.07	.16	.59***
3. Affective paucity	.28**	.01	.19*	.39***	.61***
4. Action	.23**	-.01	.13	.35***	.56***
5. Fantasy	.16	-.09	.08	.33***	.68***
6. External orientation	.35***	-.12	.25**	.62***	.68***
11. Communication deficit	.49***	.10	.54***	.40***	.58***
12. Lack of words	.35***	.17*	.35***	.22**	.61***
<b>SIFA IF</b>	<b>.43***</b>	<b>.44***</b>	<b>.32***</b>	<b>.14</b>	<b>.33***</b>
7. Distinguish emotions	.38***	.43***	.24**	.11	.36***
8. Understand reasons	.38***	.42***	.30***	.08	.09
9. Inappropriate affect	.25**	.24**	.27**	.02	.35***
10. Interpret physiological	.18*	.30***	.07	-.01	-.07
13. Inappropriate words	.41***	.27**	.35***	.24**	.33***

Note.  $N=136$ . EO = External orientation; IF = Problems identifying feelings; DF = Problems describing feelings. All coefficients were calculated using Pearson  $r$ .

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

## Convergent/Discriminant Validity of the SIFA Items

	BDI					NEO					EQI				
	(N=136)	N	E	O	A	C	total	intra	inter	adapt	stres	mood	(N=117)		
<b>SIFA Total</b>	-.04	-.15	-.11	-.34***	.01	-.15	-.09	-.17	-.19*	.05	.07	-.04			
<b>SIFA EO</b>	-.12	-.25**	-.03	-.41***	.04	-.08	.03	-.05	-.14	.15	.15	.07			
2. Circumstances	-.18*	-.27**	.08	-.20*	.10	.10	.19*	.22*	.10	.14	.14	.19*			
3. Affective paucity	-.09	-.22*	-.14	-.29**	.03	-.15	-.02	-.10	-.19*	.14	.17	-.05			
4. Action	-.05	-.10	.00	-.12	-.03	-.01	-.05	.03	-.16	-.02	-.09	.01			
5. Fantasy	-.18*	-.25**	.19*	-.48***	.09	.02	.16	.07	-.06	.29**	.25**	.16			
6. External orientation	-.19*	-.24**	-.03	-.49***	-.06	-.02	.05	-.01	-.16	.18*	.16	.09			
11. Communication	.06	-.07	-.19*	-.25**	-.05	-.26**	-.16	-.27**	-.23*	-.02	.02	-.11			
12. Lack of words	-.05	-.14	-.10	-.23*	.07	-.09	-.02	-.14	-.07	.10	.10	.00			
<b>SIFA IF</b>	.17	.07	-.22*	-.04	-.03	-.22*	-.25**	-.32***	-.17	-.19*	-.10	-.21*			
7. Distinguish emotions	.03	.00	-.11	-.01	.00	-.12	-.14	-.20*	-.13	-.05	-.05	-.12			
8. Understand reasons	.19*	.18*	-.21*	-.04	-.03	-.15	-.26**	-.26**	-.14	-.24**	-.21*	-.19*			
9. Inappropriate affect	.06	-.02	-.18*	-.00	-.06	-.14	-.10	-.14	-.16	-.03	.04	-.07			
10. Interpret physiological	.29**	.22*	-.11	.07	.01	-.19*	-.34***	-.37***	-.06	-.34***	-.26**	-.30**			
13. Inappropriate words	-.02	.00	-.03	-.14	.00	-.04	-.08	-.16	-.11	-.01	.05	-.01			

Note. N = Neuroticism; E = Extraversion; O = Openness; A = Agreeableness; C = Conscientiousness; EO = External orientation; IF = Problems identifying feelings; DF = Problems describing feelings.

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

Validity of *Action* and *Fantasy*. A separate discussion is required to consider the validity of the *Action* and *Fantasy* items of the SIFA. In the process of the psychometric evolution of the Toronto Alexithymia Scale (Bagby et al., 1994a & 1994b; Taylor & Bagby, 1988; Taylor et al., 1992) the original BIQ dimensions of *Action* and *Fantasy* were excluded from the final version of the TAS (i.e., the TAS-20). The reason for this exclusion was the desire for reliability and factorial simplicity. The typical risk associated with such a decision is a potential loss of content-related validity (Cronbach & Gleser, 1965). As shown in Table 7, the present results provided evidence that both *Action* and *Fantasy* are related to the *External orientation* dimension of the SIFA, to the TAS-20, and to the BIQ. In particular *Fantasy* showed strong loadings on the *External orientation* component of the SIFA and had convergent/discriminant validity indexes which were similar to those of other items comprising the *External orientation* dimension of the SIFA. *Action* loaded less strongly on the *External orientation* dimension of the SIFA and showed no significant correlations with any convergent/discriminant validity indexes. These results suggested that, whereas the appropriateness of including *Action* in measuring the construct of alexithymia may be contested, *Fantasy* plays a central role in measuring the *External orientation* component of the construct of alexithymia.

#### Comparing Reliability and Validity of the SIFA, TAS-20, and BIQ

Finally, the reliability and validity indexes for the SIFA Total score and the SIFA two dimension were compared with the reliability and validity indexes of the TAS-20 and BIQ. As shown in Table 9, reliability of the SIFA was markedly higher

than that of the BIQ. The test-retest reliability of the SIFA was similar to that of the TAS-20.

As shown in Tables 9 and 10, the validity of the SIFA *External orientation* dimension was similar to the validity indexes of the BIQ. It is worth noting that the BIQ, contrary to expectations, showed negative correlation with neuroticism and depression and positive correlation with *Adaptation* and *Stress Management* facets of emotional intelligence. Conversely, the validity of the SIFA *Problems identifying feelings* dimension resembled the pattern of validity of the TAS-20. Most importantly, the convergent/discriminant validity indexes of the *Problems identifying feelings* and *External orientation* dimensions were similar for both the SIFA and the TAS-20. The fact that the TAS-20 correlations were typically higher than those of the SIFA is explainable at least in part by method variance (i.e., the fact that the TAS-20, like other instruments used for convergent/discriminant validity, is a self-report measure). These results provided further multi-method construct validity evidence that the construct of alexithymia consists of two distinct dimensions.

**Table 9**

Reliability and Concurrent Validity Indexes of the SIFA, TAS-20, and BIQ

	<u>Reliability</u>			<u>Concurrent Validity</u>		
	IR	TR	Alpha	SIFA	TAS	BIQ
	(N=52)	(N=30)	(N=139)	(N=136)	(N=136)	(N=136)
<b>SIFA Total</b>	<b>.80</b>	<b>.81</b>	<b>.82</b>	-	<b>.49***</b>	<b>.81***</b>
SIFA IF	.72	.59	.83	-	.43***	.33***
SIFA EO	.83	.72	.73	-	.36***	.86***
	(N=30)	(N=137)		(N=136)	(N=133)	
<b>TAS total</b>	-	<b>.77</b>	<b>.77</b>	<b>.49***</b>	-	<b>.19*</b>
TAS IF	-	.77	.79	.21*	-	-.09
TAS DF	-	.80	.75	.39**	-	.12
TAS EO	-	.84	.62	.45***	-	.39***
	(N=47)	(N=29)	(N=136)	(N=136)	(N=133)	
<b>BIQ total</b>	<b>.56</b>	<b>.52</b>	<b>.76</b>	<b>.81***</b>	<b>.19*</b>	-

Note. EO = External orientation; IF = Problems identifying feelings; DF = Problems describing feelings; IR = Interrater; TR = Test-retest. Reliability calculated using the Intraclass Correlation. Validity coefficients calculated using Pearson  $r$ .

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

## Convergent/Discriminant Validity Indexes of the SIFA, TAS-20, and BIQ

	BDI			NEO			EQI						
	N	E	O	A	C	total	intra	inter	adapt stres	mood			
<b>SIFA Total</b>	(N=121)	<b>-0.15</b>	<b>-0.11</b>	<b>-0.34***</b>	<b>.01</b>	<b>-0.15</b>	(N=117)	<b>-0.09</b>	<b>-0.17</b>	<b>-0.19*</b>	<b>.05</b>	<b>.07</b>	<b>-0.04</b>
SIFA IF		.17	.07	.22*	-.04	-.22*		-.25**	-.32***	-.17	-.19*	-.10	-.21*
SIFA EO		-.12	-.25**	-.03	-.41***	.04		.03	-.05	-.14	.15	.15	.07
<b>TAS total</b>	(N=121)	<b>.14</b>	<b>.16</b>	<b>-0.14</b>	<b>-0.30**</b>	<b>-.22*</b>	(N=117)	<b>-.49***</b>	<b>-.53***</b>	<b>-.38***</b>	<b>-.39***</b>	<b>-.37***</b>	<b>-.27**</b>
TAS IF		.35***	.33***	-.13	.05	-.14		-.46***	-.46***	-.21*	-.40***	-.42***	-.38***
TAS DF		.11	.17	.28**	-.12	-.22*		-.42***	-.50***	.34*	-.28**	-.24**	-.29**
TAS EO		-.15	-.16	.10	-.53***	-.10		-.16	-.16	-.25**	-.15	-.12	.08
<b>BIQ total</b>	(N=118)	<b>-.21*</b>	<b>-.26**</b>	<b>.06</b>	<b>-.33***</b>	<b>.08</b>	(N=114)	<b>.14</b>	<b>.08</b>	<b>-0.04</b>	<b>.23*</b>	<b>.19*</b>	<b>.13</b>

Note. N = Neuroticism; E = Extraversion; O = Openness; A = Agreeableness; C = Conscientiousness; EO = External orientation; IF = Problems identifying feelings. Reliability calculated using the Intraclass Correlation. Validity coefficients calculated using the Pearson r.

\* p < .05; \*\* p < .01; \*\*\* p < .001

## Discussion

### Reliability, Dimensionality, and Validity of the SIFA

The main purpose of the present study was to develop an interview-based observer rating scale to assess the construct of alexithymia, the Structured Interview for Alexithymia (SIFA). The results suggest that reliability of the SIFA may be considered excellent for research purposes and good to excellent for clinical individual assessment. Such results are particularly impressive given that the interviewers were graduate and undergraduate students, in some cases with little or no prior clinical or interviewing experience. More extensive training of the interviewers and/or the use of more clinically experienced interviewers may further improve the SIFA reliability. Importantly, the present results show that the reliability of the SIFA is markedly better than that of the BIQ, the original rating scale used to assess alexithymia.

Due to the difficulties in calculating goodness-of-fit indexes for the three-factor solution, the present study failed to provide the final answer regarding the dimensionality of the SIFA. A number of results, however, suggest that the scale is underpinned by two dimensions (*Problems identifying feelings* and *External orientation*) and not, as hypothesized, three dimensions. All items comprising the *Problems identifying feelings* and *External orientation* dimensions load distinctly on their respective hypothesized dimensions. The items of the third hypothesized dimension (*Problems describing feelings*) do not form their own factor but rather clearly split to load on the other two dimensions. Most significantly, the weak

relationship between the two SIFA dimensions questions the justification of putting them under the heading of a single construct of alexithymia.

The present study also provides strong evidence for the validity of the SIFA. The items comprising the two SIFA dimensions show clearly different concurrent and convergent/discriminant validity indexes. Regarding concurrent validity, the *Problems identifying feelings* dimension of the SIFA correlates highly with the TAS-20 *Problems identifying feelings* factor but not with the TAS-20 *External orientation* factor or the BIQ. Conversely, the *External orientation* dimension of the SIFA correlates with the *External orientation* factor of the TAS-20 and with the BIQ but not with the *Problems identifying feelings* factor of the TAS-20. Regarding convergent/discriminant validity, the *Problems identifying feelings* dimension, in particular *Understanding reasons* and *Interpreting physiological arousal items*, appear to tap a *deficit* (as indicated by depression, neuroticism, and low emotional intelligence) aspect of alexithymia. Contrary to expectations, the *External orientation* dimension, in particular *Describing circumstances*, *Fantasy*, and *External orientation items*, are negatively related to the same deficit measures. These results further question the utility of combining these two dimensions within one construct.

### Dimensionality and Validity of the Construct of Alexithymia

In addition to the development of the SIFA, the present study was concerned with a broader consideration of the dimensionality and construct validity of the construct of alexithymia. The present results of the dimensionality and validity of the SIFA are paralleled by the results obtained with the use of a self-report measure of



alexithymia (TAS-20, Bagby et al., 1994a, 1994b). In the present study, the TAS-20 dimensions of *Problems identifying feelings* and *External orientation* are unrelated to one another and show different validity indexes. The pattern of the validity indexes, which is similar to that of the SIFA, further suggests that *Problems identifying feelings* but not *External orientation* constitute the core of the *deficit* of alexithymia. Combined with previous challenges to the dimensionality of the TAS-20 (Haviland & Reise, 1996; Kroner & Forth, 1995; Taylor, Bagby, & Parker, 1992), these results suggest that alexithymia should neither be considered a unidimensional nor a three-dimensional construct, but is best conceptualized as comprising two related yet markedly different dimensions.

Regarding the relationship between these two alexithymia dimensions, it can be speculated that being externally oriented, while perhaps necessarily co-occurring with problems identifying feelings, is not in itself indicative of psychopathology. External orientation may be a result of the *lack of motivation* to explore inner reality and not a deficit per se. Moreover, *External orientation* may constitute an adaptive *coping* strategy. Externally oriented people may not be in touch with their feelings because they do not want or need to be or because their feelings are too difficult to experience consciously. Should the need arise, these individuals might be perfectly capable of identifying their emotional states. In contrast, people who are incapable of identifying their emotional states, understanding their physiological states, or understanding the reasons for how they feel at the time when there is a need for it, may be unable to appropriately adapt to the situation and modulate affect.

Consequently, problems identifying feelings may result in a subsequent coping deficit and psychopathology.

### Limitation of the Study and Suggestions for Future Research

One of the questions which arises given the above results and speculations is the utility, especially clinical utility, of the *External orientation* dimension of alexithymia. Future multi-method research should provide further answers regarding this issue. Should *External orientation* be found to be unrelated or negatively related to the indexes of psychopathology, its clinical utility would need to be reconceptualized. As *External orientation* has constituted the core of the construct of alexithymia since its conception, its exclusion would also require a major reconceptualization of the alexithymia construct itself.

To further explore the validity of alexithymia dimensions, future research should also employ more qualitative methodology which would capture idiographic levels of change in the levels of *External orientation* and *Problems identifying feelings* with the changes in the level of objective or subjective levels of distress. Should *External orientation* be found to increase with an increase in stress, it would be an indication that avoiding being internally oriented serves as a coping mechanism rather than, or in addition to, being a stable personality characteristic. Viewed in such a way, it is possible that *External orientation* is more influenced by situational factors. The same rationale applies to the *Problems identifying feelings* dimension. If it was found to be stable across different levels of individual distress, it would be concluded that the difficulty in identifying feelings constitutes a stable

individual predisposition. The same question could also be addressed within the context of more severe psychopathology. If psychotic or depressive episodes were found to be associated with an increased levels of alexithymic characteristics, the question of a relative contribution of alexithymia to those disorders would need to be addressed.

Two methodological approaches may prove fruitful in addressing the above questions. First, studying individual changes within the process of therapy may render externally valid evidence regarding the relationship between alexithymia, stress, and coping. Second, experimental methodology may be used to determine causal relationship between levels of coping and alexithymia. For example, such paradigms as blink-startle reflex (Patrick, 1994) may be used to assess individual differences in both emotional sensitivity to stress and coping.

Future research should also further explore the existence of gender differences on the two alexithymia dimensions. Social norms of emotional display in contemporary culture do not facilitate men's emotional exploration and expressiveness (Brody, 1993). Consequently, women should score lower than men on the *External orientation* dimension of alexithymia. If no gender differences were found on the *Problems identifying feelings* dimension, it would indicate that the level of deficit is similar across genders, which would further contribute to my present conceptualization of the relationship between *Problems identifying feelings* and *External orientation*.

Another striking feature of the current research on the construct of

alexithymia is the lack of theoretical integration of alexithymia with other relevant constructs. First, the concept of *psychological mindedness* has played a prominent role in psychological research and clinical practice, and it is widely agreed that it constitutes a major variable in tailoring psychotherapy to individual needs (McCallum & Piper, 1996 & 1997; Roth & Fonagy, 1996; Tantam, 1995). However, there exist considerable disagreement regarding the definition of psychological mindedness as well as problems with a reliable assessment of the construct (McCallum & Piper, 1997; Tantam, 1996). Further, there is barely any research which considers the cross-section of psychological mindedness and alexithymia (Taylor & Taylor, 1997). Theoretical and empirical reconciliation of these two related areas may prove beneficial to the conceptualization of emotional functioning. Another relevant area include the emerging broad construct of emotional intelligence (Bar-On, 1996; Goleman, 1995). It is possible that the facets of alexithymia may capture very specific aspects of emotional intelligence. Yet another relevant area to consider may be coping research. Especially the *External orientation* dimension of alexithymia may contribute to understanding some coping styles. Finally, the possible developmental etiological factors may be better understood by employing dynamic conceptualizations using such theories as object relations (Lavinia, 1997) or attachment (Feeney & Noller, 1996). These future ventures would require both theoretical and empirical treatment of the subject matter.

### Action and Fantasy and Alexithymia

A major theoretical dispute between the proponents of the TAS-20 and BIQ

has been concerned with the appropriateness of including *Action* and *Fantasy* in the conceptualization of alexithymia. Two of eight original BIQ items tap the use of action to express feelings or avoid conflictual situations, whereas the TAS-20 does not measure this dimension. Even more importantly, Sifneos (1996) argues that the exclusion of deficit in fantasy from the TAS-20 is a major impediment to the validity of the TAS-20. The present study provides strong evidence that *Fantasy* both can be reliably measured and is central to the *External orientation* dimension of alexithymia. Previous difficulties of the proponents of the TAS-20 regarding a reliable assessment of *Fantasy* might have resulted from the limitations of self-report assessment methodology. The answer regarding the appropriateness of including *Action* in the conceptualization of alexithymia is less unequivocal given the present results. Further investigation, in particular research with women who presumably use action less than men, is required to clarify this issue.

#### Historical Evolution of the Construct of Alexithymia

The *Problems identifying feelings* dimension of the SIFA is highly related to the TAS-20 but not to the BIQ while the *External orientation* dimension is strongly related to the BIQ but not as strongly to the TAS-20. With this in mind, it is interesting to revisit the historical development of the construct of alexithymia. The first instrument to assess alexithymia - the clinically derived BIQ (Sifneos, 1973) - measured almost exclusively the *External orientation* dimension and did not tap the *Problems identifying feelings* dimension. It is only later, through the use of psychometric theory, that Taylor et al. (1984 & 1992) and Bagby et al. (1994a

&1994b) arrived at what appears to be a more clinically relevant aspect of alexithymia, the *Problems identifying feelings* dimension. Thus, it appears that Sifneos (1973) originally measured what perhaps constitutes some typical manifestations of the deficit, but failed to capture the deficit itself. It is only with the appearance of the self-report that the core deficit was captured. It appears that history conveys the message that clinical insight has to be complemented with psychometric theory in the construction of valid measurement instruments.

### Summary

As a result of the present study, the first step in the development of a promising rating scale to assess the construct of alexithymia has been completed. The advantage of the SIFA over the original alexithymia rating scale (BIQ) is its ease of administration, its high reliability, and its coverage of the clinically relevant *Problems identifying feelings* domain. This achievement of high reliability and a relatively clean factor structure is particularly impressive given that the SIFA items were sampled from a broad domain, which is typically associated with the loss of reliability (Cronbach & Gleser, 1965; Shannon & Weaver, 1949). The breadth of the SIFA exceeds both existing instruments (TAS-20 and BIQ). There is also relatively little content overlap among the SIFA items.

The existence of a reliable and valid rating scale to assess alexithymia will allow the assessment of the construct using multiple methods, and thus avoidance of the mono-method bias (Cook & Campbell, 1979). Given different advantages in using self-reports and observer ratings (Cook & Campbell, 1979; Nay, 1979;

Wiggins 1973), multi-method assessment of the construct of alexithymia will allow a comprehensive treatment of the validity of the construct of alexithymia. The present study already provided interesting preliminary multi-method results regarding the dimensionality and validity of alexithymia. The most interesting suggestion is that alexithymia may comprise two separate dimensions, only one of which is clinically relevant. Future research should cross-validate the present results with women and move beyond the normal population to seek more clinically relevant samples and methodologies. Once cross-validated with women and clinical subjects, the SIFA may become an excellent research and clinical assessment tool. At present, I recommend that the SIFA be used in research in conjunction with the currently most adequate self-report measure of alexithymia, the Toronto Alexithymia Scale (TAS-20).

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## Appendix A

### The Structured Interview for Alexithymia (SIFA).

#### INTERVIEWING AND SCORING

##### THE INTERVIEWER

Clinical, and particularly interviewing, experience is necessary for the adequate assessment of alexithymia. Training is required to acquire familiarity with the construct of alexithymia, the SIFA items, and the scoring procedures.

##### BEGINNING THE INTERVIEW

Interviewing should begin after establishing rapport (e.g., through gathering demographic information).

##### QUESTIONS AND PROMPTS

- Ask all questions verbatim. Question-probes in parentheses are optional. Limit your use of probes beyond those provided. Always wait before probing.
- The underlined words or phrases indicate emphasis.
- Do not ask questions which have already been answered.

##### RECAPPING

At the end of some sections of the interview, the interviewer summarizes his/her impressions of the individual and asks for feedback. Recapping is a way of making sure that the interviewer has enough information to score the item, and provides an opportunity for clarification.

##### VERBAL AND NON-VERBAL INFORMATION

Writing responses verbatim should be avoided. Rather, both important verbal and nonverbal cues should be observed and noted. Scoring is done on the basis of both verbal and non-verbal information. If there is a discrepancy between verbal responses and non-verbal cues, clinical observation should generally be weighted more heavily.

Some relevant **non-verbal** cues include:

- Low level of animation.
- Incongruity of words and non-verbal behavior.
- Lack of variation in emotionality/voice pitch.
- Length of time it takes the person to respond.
- Puzzled reaction to a question.
- Difficulties in coming up with examples. Verbal responses may be non-alexithymic due to social desirability, but the person may have difficulties (either unable or delayed) coming up with examples.
- Interviewers reaction to the person (e.g., boredom) should be attended to.

For **verbal** information:

- The reasons and explanations rather than the answers per se should be attended to. For example, verbal "yes" to "Do you often feel confused about emotions" is not meaningful before asking "why?".
- Do not score a general deficit in communication, but only a deficit in the communication of emotions. Attend to any discrepancy between the person's normal communicative skills and their communication of emotions.

##### SCORING

You can score each item tentatively "as you go"; however, rescore the interview after you have finished as a significant number of probes provide information for more than one item. Always use and adhere closely to *Item Description* part of the scoring manual to make final decisions. Score each item 0, 1, or 2, where 2 indicates an alexithymic direction. Arrows up/down are to be used for those items that fall between 0-1 or 1-2.

**2** The item applies to the individual; a reasonably good match in most essential respects; his/her presentation is

generally consistent with the flavor and intent of the item

**1** The item applies to a certain extent but not to the degree required for a score of 2; a match in some respects but

with too many exceptions or doubts to warrant a score of 2; uncertain about whether or not the item applies;

conflicts between verbal and non-verbal information that cannot be resolved in favor of a score of 2 or 1.

**0** The item does not apply to the individual; he/she does not exhibit the trait or behavior in question, or he/she

exhibits characteristics that are the opposite of, or inconsistent with, the intent of the item

##### VALIDITY CHECK

After you have scored the items, indicate (on a 5 point scale) how confident you are in your ratings using the following scale. Do you think that the information you have obtained is adequate for your rating? Do you think that your rating might change if you obtained more information? Do you think that your rating is valid? How certain are you that other raters would score the person in a similar way? Do you have a good "feel" for where the person is on alexithymia?



<b>ITEM DESCRIPTION</b>
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**DIMENSION 1: EXTERNAL ORIENTATION**

**Item 1: Avoids emotions by describing PHYSICAL COMPLAINTS** ..... 0 1 2

- Gives an elaborate description of physical complaints rather than feelings (individuals who describe physical symptoms but relate them to emotions (e.g., I was upset and afraid and my heart was pounding), would not score in an alexithymic direction.
- Reverts back to an elaboration of physical complaints despite prompts for psychological exploration.
- Describes endless details of symptoms rather than feelings.

There are no specific questions for this item. Listen for it during the entire interview. Alexithymic individuals will bring it up spontaneously. If not mentioned during the interview, score 0.

**Item 2: Avoids emotions by describing CIRCUMSTANCES OR DETAILS** .. 0 1 2

- Tends to describe circumstances or endless, trivial details surrounding events rather than feelings.
- Fails to elaborate on any psychological experiences surrounding events when prompted

Attend to your reactions - do you find the person boring?

Prompt a little more aggressively for feelings if they keep reverting to circumstances or details. However, take care not to make the person defensive.

**Item 3: AFFECTIVE PAUCITY** ..... 0 1 2

- Reports paucity of emotional experience, either in terms of the range or the intensity of emotions.
- Rarely cries.
- Shows flat affect (unchanging facial expression, decreased expressive gestures, poor eye contact, slowed speech).
- Monotone voice - lack of vocal inflection.
- May have difficulty coming up with situational examples for specific emotions.

Attend to your reactions - are you bored by this person?

**Item 4: Avoids emotions through ACTION** ..... 0 1 2

Uses action to either express feelings, avoid getting into conflictual situations, remove oneself from emotional situations

- Deals with stress or emotions through action.
- Instead of thinking about/evaluating experiences or communicating distress, a typical response to situations that evoke emotions is one of immediate action.  
Reaction to stressful or emotional situations may, but need not, be impulsive; the key is avoidance rather than an impulse control problem.
- "Action" does not necessarily mean doing something active; simply leaving a situation to avoid stress would be considered action. For example, some typical alexithymic responses may be: "I'd leave a place and smoke a cigarette", "I'd have a drink and try to forget it."

**Item 5: Limited FANTASY** ..... 0 1 2

- Compared to other people, he/she has a poor or limited fantasy life.
- Thought content is associated more with external, concrete and practical events than with fantasy or feelings.
- Rarely daydreams. Is tied to reality. Lacks creativity and imagination. Engages in "operational" thinking. Some alexithymic individuals may report liking fantasy/science fiction; however, this may be a way of escaping reality and may not be indicative of a rich fantasy life. Such persons will rarely relate the books or movies to their own lives, or reflect upon them.

The person may present as intellectualized, which should in itself not be considered fantasy.

Typical alexithymic responses are that they rarely ever sit and think, that they rarely see movies or read stories, or even if they do, that they hardly give thought to them subsequently, and that they lack imagination.

You may find the person dull and boring.

**Item 6: EXTERNAL ORIENTATION** ..... 0 1 2

- In scoring this item consider both the motivation, i.e., whether the individual is pulled toward/interested in exploring internal reality, and what the person actually does, i.e., whether the person is exploring internal reality.
- Is not motivated to explore inner reality; does not believe that this is important.
- Prefers material things over ideas or people.
- Prefers to discuss daily activities as opposed to thoughts or feelings.

This item pertains to attitudes towards others as well as the self.

**DIMENSION 2: PROBLEMS IDENTIFYING FEELINGS****Item 7: Difficulties DISTINGUISHING EMOTIONS ..... 0 1 2**

- Experiences trouble distinguishing among various emotions. Consider frequency of the problem and/or the time it takes to resolve the confusion. Note that non-alexithymic individuals may report some confusion about their emotional experiences; however, the confusion will pertain to subtle as opposed to more crude distinctions.
- Experiences a general state of distress but has trouble determining whether the emotion is anger, sadness, hurt, or anxiety.
- Requires more time to figure out emotions. The longer the time delay, the higher the score.
- Shows difficulty coming up with examples of specific emotions.

If the person scores high on *Affective Paucity*, i.e., reports paucity of emotional experience, it is likely that the person will also score high on this item.

“Understanding the reasons for feelings” should not be scored under this item; it is the “what” and not the “why” of emotions that is important.

**Item 8: Difficulties UNDERSTANDING THE REASONS FOR FEELINGS .. 0 1 2**

- Shows trouble understanding the reasons for feelings. Consider frequency of the problem and/or time it takes to figure out the reasons.
- For example, may experience anger or sadness, but be unable to identify the triggers.
- Requires more time to figure out reasons for feelings. The longer the time delay, the higher the score.

**Item 9: INAPPROPRIATE AFFECT ..... 0 1 2**

- Shows inappropriate affect. Consider inappropriate emotions (e.g., smiles when sad; crying is not necessarily related to appropriate emotions such as sadness or anger) as well as inappropriate intensity of emotional reactions (too strong or too weak/absent) given the situation.
- Responds to probes with inappropriate emotional expression.

The interviewer may be struck by inappropriateness of affect (oddness) during the interview.

**Item 10: Difficulties INTERPRETING PHYSIOLOGICAL AROUSAL ..... 0 1 2**

- Shows trouble interpreting physiological arousal. Consider frequency of the problem and/or time it takes to figure out what the physiological symptoms mean.
- Experiences general physiological distress in emotional situations without being able to identify the experienced emotion.
- Requires more time to figure out the meaning of physiological arousal. The longer the time delay, the higher the score.

Physiological arousal is a part of emotional experience. It is alexithymic only if the individual is unable to subjectively/consciously appraise physiological arousal.

Non-alexithymic people will most likely be puzzled by these question.

**DIMENSION 3: PROBLEMS DESCRIBING FEELINGS****Item 11: COMMUNICATION DEFICIT ..... 0 1 2**

- Has difficulties communicating emotions. The communication deficit may be due to either the inability to communicate emotions or the lack of motivation to do so.
- Tends not to communicate feelings even to those who are close.
- Experiences difficulties/uneasiness during the interviewer.

Note that these difficulties pertain only to communicating psychological experiences rather than to a general communication deficit.

**Item 12: LACK OF WORDS for feelings ..... 0 1 2**

- Uses a restricted emotional vocabulary. Appears to lack words for feelings.
- Uses general (e.g., "upset", "bothered") rather than more specific emotion words.
- Has difficulty in verbally expressing emotions.
- Struggles to articulate emotional experiences during the interview.

The interviewer may find him/herself wanting to offer words.

**Item 13: INAPPROPRIATE WORDS to describe feelings ..... 0 1 2**

- Uses inappropriate words to describe feelings. These could be either non-emotion words or emotion words which do not fit the situation. The words may struck the interviewer as odd.
- Confuses emotion labels. Note that non-alexithymic individuals may report some confusion about labeling emotional experiences; however, the confusion will pertain to subtle as opposed to more crude distinctions.

The interviewer may find him/herself wanting to correct the person.

## Structured Interview for Alexithymia (SIFA): Interview Schedule

### INTERVIEWER:

*I am going to be asking you a number of questions which relate to your emotional style. At times we may seem to be jumping around a little but just try to answer the questions as best as you can. If you do not feel comfortable answering a particular question feel free to say you would like to skip this one.*

*From time to time, I am going to be making an effort to summarize what you've told me. It is very important that you let me know whether these summaries make sense to you, and that you correct me when you feel I am wrong.*

<b>Avoids emotions by describing PHYSICAL COMPLAINTS</b>	0	1	2
--	---	---	---

<b>Avoids emotions by describing CIRCUMSTANCES OR DETAILS</b>	0	1	2
---	---	---	---

<b>AFFECTIVE PAUCITY</b>	0	1	2
--------------------------	---	---	---

*Can you tell me about a recent important event in your life and how you felt at that time?*

*Could you describe a sad moment in your life? (What were your thoughts?)*

*Do you often cry? (Ever? How often? When was the last time you cried? In what circumstances?)*

*Can you describe a happy moment? (What were your thoughts?)*

*How about when you were angry? (What did you think about?)*

\_\_\_\_\_

*In general, are you an emotional person? (In what sense?)*

*Would you say that you experience a broad range of emotions? (Can you elaborate?)*

*What are the emotions that you usually experience? (What are your most common emotions?)*

*How about the intensity of your emotions - do you tend to have strong emotional experiences? (Can you tell me more about this?)*

*Overall, do you feel that you are more, or less emotional than others? (How so?)*

\_\_\_\_\_

*So, as I understand it, you experience .... (Address breadth/intensity/etc.)  
Is this right?*

**Avoids emotions through ACTION**

0

1

2

What do you usually do when you're feeling bad?

How about when you're angry?

What about when you're feeling anxious? What do you do?

What would you do if a person you really cared about betrayed you?

\_\_\_\_\_

In general then, when you experience negative emotions, do you tend to act upon your feelings, or do you prefer to think about them, or discuss them with someone? (What is your most typical way of dealing with stress?)

IF ACT: So, when you say you act upon your feelings, what do you mean by that? (Are you trying to take your mind off your feelings? Does it work? Are you doing things to express you feelings or to avoid them?)

\_\_\_\_\_

As I understand, then, your predominant way of dealing with (sadness/ anger/ anxiety) is (to think about it/ to distract yourself/ to talk to others). (Address the three emotions and primary and secondary coping strategies.) Is this correct?

**Limited FANTASY**

0

1

2

Do you enjoy going to movies or reading?

What kind of movies or books do you prefer? (What do you like about them? Are you looking more for entertainment? Do books and movies enrich your life? How? Do you look for hidden or deeper meanings in books or movies? In what way?)

Do you sometimes relate scenes from movies or books to your own life? (Could you think of an example?)

What sort of thoughts come to your mind when you are alone?

Do you often daydream? (What about?)

Would people say you have good imagination?  
Do you think you do? (In what way?)

Do you have any artistic interests? (Elaborate.)

What subjects interest(ed) you at school? (Why?)

\_\_\_\_\_

It seems to me that one would describe you as more of a (concrete/ practical/down-to-earth person/ imaginative/ creative person). Does this seem right?

**EXTERNAL ORIENTATION**

0 1 2

*Do you prefer talking to people about their daily activities or about their feelings? (Why?)  
(If you are with someone who is open to discussing feelings, what would you prefer to talk about? Why?)*

*What do you usually talk about with your best friend or partner?*

*Do you prefer to analyze your problems or describe them? (Do you consider a problem from a number of different angles or do you prefer to quickly nail it down and state what the problem is? Why? Would you be able to give me an example?)*

*Do you prefer to let things happen, or do you always try to understand them? (Why?)*

*Do you prefer things or people? (For example, in a future job, would you prefer to work with things or people? Why?)*

*Do you believe that being in touch with emotions is important (Why? Are you in touch with your emotions?)*

*Do you find that some people are too concerned with their emotions? (How so?)*

*Would you find exploring feelings useful in solving your personal problems? (How?)*

*Do you try to figure out how other people are feeling? (Why?)*

*So, it seems that .... (Address motivation and what the person actually does)*

*-it's important for you to understand what is going on inside you*

*-you spend time thinking about your feelings*

*-you are an easy going person and don't need to understand every little thing*

*-you don't dwell on your emotion*

*Does this fit with your view of yourself?*

**Difficulties DISTINGUISHING EMOTIONS**

0

1

2

**Difficulties UNDERSTANDING THE REASONS FOR FEELINGS**

0

1

2

*Are you often confused about what emotion you are feeling or do you usually know what's going on inside you? (How often are you confused? Could you give me an example?)*

*Does it ever happen that you feel upset, but you don't know if you are sad, hurt or angry?*

*When you're feeling upset, how quickly can you figure out what specific emotion you're feeling?*

\_\_\_\_\_ *In general, would you say you understand the reasons for your feelings?*

*So when you are feeling sad, do you (always) know why, or does it happen that you're feeling down but don't quite know why? (How often are you unsure? Could you give me an example?)*

*How about when you are angry, do you typically know why? (How often are you unsure? Could you give me an example?)*

*Do you usually know why you are anxious? (In what situations? How often?)*

\_\_\_\_\_ *So, in general ....* (Address ability to differentiate emotions as well as ability to understand the reasons for emotions.)

**INAPPROPRIATE AFFECT**

0

1

2

*Sometimes people have emotional reactions that don't seem to make sense. Does this happen to you? (Are you ever surprised by your reactions? Can you give me an example?)*

*Does it happen that others are puzzled by your emotional reactions? (Might people sometimes think that your reactions do not fit the situation? Is it that they are inappropriate, or too intense, or not strong enough? Could you tell me more about it.)*

*Do you sometimes laugh in situations in which it would not be expected? (Could you give me example.)*

*Do you sometimes feel differently from how others would feel in a similar situation? (Please give me an example.)*

\_\_\_\_\_ *So, it seems that your reactions are ....* (Address appropriateness of reaction to situation, including intensity.)

**Difficulties INTERPRETING PHYSIOLOGICAL AROUSAL**

0

1

2

*Are you sometimes puzzled by physical sensations in your body? (Do you have physical sensations that are difficult to understand? In what situations?)*

*In some situations, do you find that your body reacts but you don't know what you are feeling? (For example, does it happen that your heart starts beating quickly, or you have butterflies in your stomach, or you feel some other sensation, but you don't know why? With time, are you able to figure it out?)*

**COMMUNICATION DEFICIT**

0 1 2

**LACK OF WORDS for feelings**

0 1 2

**INAPPROPRIATE WORDS to describe feelings**

0 1 2

*Do you find it difficult to talk to others about your feelings? (Do you talk to others? How about to friends or family? What makes it difficult?)*

*What would people who are close to you say about your ability to communicate your feelings? (Do people encourage you to describe your feelings more? Could you give me an example.)*

*When you do describe your feelings, do you have difficulty making yourself understood? (Why? Can you give me an example?)*

*Is it difficult for you to find the right words to describe how you are feeling? (Could you give me an example?)*

*Has anyone ever told you that the way you describe or express your feelings is not accurate? (Could you give an example.)*

*When you describe how you feel, does it ever happen that you say something and then realize that you used the wrong word? (Could you give me an example?)*

*Do you feel you are communicating your emotions well during this interview?*

*In general then, you .... (Address motivation to communicate emotions, ability to communicate emotions, and any difficulties)*

- seem to have difficulty finding the right words to describe how you feel*
- don't seem to feel a need to talk about how you feel*
- find it difficult to talk about your emotions*
- have difficulty making yourself understood*

*Does this seem right?*

**CLOSING**

*Okay. I've asked you a number of questions about your emotional style. Is there anything I have not touched on that you feel may be important?*



# Structured Interview for Alexithymia (SIFA): Rating Scale

Interviewer: \_\_\_\_\_ Date: \_\_\_\_\_

Rater: \_\_\_\_\_ Date: \_\_\_\_\_

ITEM	SCORE	Factors		
		1	2	3
1 PHYSICAL COMPLAINTS	<input type="text"/>	<input type="text"/>		
2 DESCRIBES CIRCUMSTANCES or DETAILS	<input type="text"/>	<input type="text"/>		
3 AFFECTIVE PAUCITY	<input type="text"/>	<input type="text"/>		
4 ACTION	<input type="text"/>	<input type="text"/>		
5 FANTASY	<input type="text"/>	<input type="text"/>		
6 EXTERNAL ORIENTATION	<input type="text"/>	<input type="text"/>		
7 DISTINGUISHING EMOTIONS	<input type="text"/>		<input type="text"/>	
8 UNDERSTANDING REASONS FOR FEELINGS	<input type="text"/>		<input type="text"/>	
9 INAPPROPRIATE AFFECT	<input type="text"/>		<input type="text"/>	
10 INTERPRETING PHYSIOLOGICAL AROUSAL	<input type="text"/>		<input type="text"/>	
11 COMMUNICATION DEFICIT	<input type="text"/>			<input type="text"/>
12 LACK OF WORDS	<input type="text"/>			<input type="text"/>
13 INAPPROPRIATE WORDS	<input type="text"/>			<input type="text"/>
<b>Total</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

**Confidence rating:** Do you think that the information you have obtained is adequate for your rating? Do you think that your rating might change if you obtained more information? Do you think that your rating is valid? How certain are you that other raters would score the person in a similar way? Do you have a good "feel" for where the person is on alexithymia?

CONFIDENT ABOUT RATING      5                      4                      3                      2                      1      NOT CONFIDENT ABOUT RATING

Briefly comment on why you do not feel this to be a 4 or 5.

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**Appendix B****Toronto Alexithymia Scale - 20 (TAS-20).**

Using the scale provided as a guide, indicate how much you agree or disagree with each of the following statements by circling the corresponding number. Give only one answer for each statement.

		STRONGLY DISAGREE 1	MODERATELY DISAGREE 2	NEITHER DISAGREE NOR AGREE 3	MODERATELY AGREE 4	STRONGLY AGREE 5			
IF	1. I am often confused about what emotion I am feeling				1	2	3	4	5
DF	2. It is difficult for me to find the right words for my feelings				1	2	3	4	5
IF	3. I have physical sensations that even doctors don't understand				1	2	3	4	5
DF	*4. I am able to describe my feelings easily				1	2	3	4	5
EO	*5. I prefer to analyze problems rather than just describe them				1	2	3	4	5
IF	6. When I am upset, I don't know if I am sad, frightened, or angry				1	2	3	4	5
IF	7. I am often puzzled by sensations in my body				1	2	3	4	5
EO	8. I prefer to just let things happen rather than to understand why they turn out that way				1	2	3	4	5
IF	9. I have feelings that I can't quite identify				1	2	3	4	5
EO	*10. Being in touch with emotions is essential				1	2	3	4	5
DF	11. I find it hard to describe how I feel about people				1	2	3	4	5
DF	12. People tell me to describe my feelings more				1	2	3	4	5
IF	13. I don't know what's going on inside me				1	2	3	4	5
IF	14. I often don't know why I am angry				1	2	3	4	5
EO	15. I prefer talking to people about their daily activities rather than their feelings				1	2	3	4	5
EO	16. I prefer to watch "light" entertainment shows rather than psychological dramas				1	2	3	4	5
DF	17. It is difficult for me to reveal my innermost feelings, even to close friends				1	2	3	4	5
EO	*18. I can feel close to someone, even in moments of silence				1	2	3	4	5
EO	*19. I find examination of my feelings useful in solving personal problems				1	2	3	4	5
EO	20. Looking for hidden meanings in movies or plays distracts from their enjoyment				1	2	3	4	5

**Note.** \* = negatively scored items. IF = Problems identifying feelings; DF = Describing Feelings; EO = External Orientation

Appendix B (cont'd)

Toronto Alexithymia Scale - 20 (TAS-20): The Relationship Between the TAS-20 and Normal Personality in Past Research and Present Study.

	<u>Normative Sample (NEO-PI)</u>					<u>Present study (NEO-FFI)</u>				
	N	E	O	A	C	N	E	O	A	C
	(N = 83)					(N = 121)				
<b>TAS total</b>	<b>.27</b>	<b>-.21</b>	<b>-.49**</b>	<b>-.09</b>	<b>-.21</b>	<b>.16</b>	<b>-.14</b>	<b>-.30**</b>	<b>-.22*</b>	<b>-.29**</b>
TAS IF	.42**	-.22*	-.28*	-.14	-.19	.33**	-.13	.05	-.14	-.24**
TAS DF	.26*	-.26*	-.30**	-.12	-.11	.17	-.28**	-.12	-.22*	-.19*
TAS EO	-.09	.00	-.61**	.09	-.20	-.16	.10	-.53**	-.10	-.16

Note. EO = External orientation; DF = Problems describing feelings; IF = Problems identifying feelings. N = Neuroticism; E = Extraversion; O = Openness; A = Agreeableness; C = Conscientiousness.

\*  $p < .05$ ; \*\*  $p < .01$ . Normative sample from Bagby et al. (1994b).

## Appendix C

Beth Israel Hospital Questionnaire: Alexithymia questions.

### **BIQ**

Scoring:            2 = Yes            1 = Maybe            0 = No

- 2 1 0 1. Describes endless details, events, or symptoms rather than feelings
- 2 1 0 \*2. Uses appropriate words to describe feelings
- 2 1 0 \*6. Has a rich fantasy life
- 2 1 0 7. Uses action to express feelings
- 2 1 0 8. Uses action to avoid conflicting situations
- 2 1 0 12. Tends to describe circumstances surrounding the event rather than feelings
- 2 1 0 13. Has difficulties communicating with the interviewer
- 2 1 0 16. Thought content is associated more to external events than to fantasy or feelings

Note. \* = negatively scored items

Appendix C (cont'd)

## Beth Israel Hospital Questionnaire: Concurrent Validity of the BIQ in Past Research and Present Study

	Past research	Present study
TAS total	.53**	.19*
TAS IF	.36**	-.09
TAS DF	.57**	.12
TAS EO	.36**	.39**
(N = 39 psychiatric patients)		(N = 133)

Note. EO = External orientation; IF = Problems identifying feelings; DF = Problems describing feelings. Reliability calculated using the Intraclass Correlation in the present study and using the Pearson  $r$  in past research. The differences between the two studies are due to the fact that Bagby et al. (1994b) modified the BIQ by adding extra items that were more consistent with the content domain of the TAS-20.

\*  $p < .05$ ; \*\*  $p < .01$