

## **Sivik Psychosomaticism Test and Test of Operational Style - Construct Validity: Relationship with Toronto Alexithymia Scale (TAS-r)**

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### **Abstract**

To evaluate the construct validity (convergent and divergent) of SPS-OPER test, 88 healthy participants and 285 psychosomatic patients completed the tests. Pearson correlation coefficients between SPS scales and subscales and Toronto Alexithymia Scale - Revised (TAS-r) were calculated. Most SPS subscales and OPER are significantly correlated to TAS-r. The correlations are higher for the patient group than for the normal population group, and higher in the under-emotional patient group than both the healthy control and the total patient group. The results are in concordance with our hypotheses. This demonstrates good construct validity of the SPS and OPER tests, and supports the assumptions that the TAS-r test measures general distress related to psychosomaticism.

**Keywords:** personality test, psychosomaticism, coping style, alexithymia, TAS-r, psychodynamic

### **Introduction**

The Sivik Psychosomaticism test (SPS) and test of Operational style (OPER) are self-report questionnaires that were developed to assess the personality traits and coping strategies associated with the risk of development of psychosomatic disease or syndromes. The tests use a combination of projective and structural formats. This design enables the assessment of the inter-individual, interactional and psychodynamic relational patterns and coping-styles involved in the development of psychosomatic disorders. The projective aspect of the questionnaires makes it possible to assess both sub-emotional (alexithymic) and over-emotional (neurotic) personality traits and coping-styles. The development of the test was initiated as a result of our clinical and research experience, where we observed that the concept of alexithymia was being used indiscriminately and

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as a result may have lost some of its diagnostic and descriptive value (Sivik & Hösterrey, 1992; Sivik, Gustavsson & Klingberg-Olsson, 1992; Sivik et al., 1992; Ringsberg, Löwhagen & Sivik, 1993; Sivik, 1993; Ringsberg, Wetterqvist, Sivik & Löwhagen, 1997). Alexithymic individuals have difficulty communicating emotional and abstract material – they are concrete, sub-emotional and operational, i.e., action oriented rather than reflective/imaginative. Very often they present a "happy childhood and family life" – a statement that the therapist often characterises as blunt and stereotyped. The alexithymic individuals' perception of their relationships at work is also often "non-problematic". They are seldom aware of being either anxious or depressed, but may present general distress and physical symptoms. The alexithymia label has often been used synonymously with the presence of (psycho)somatic diseases and has also by some psychotherapists been attributed to patients who resist treatment. However, it is important to be able to identify and differentiate psychosomatic patients that are "over-emotional" from those that are "under-emotional", since they require quite different treatment approaches (Sivik, 1998; Wickramasekera, 1998).

The SPS and OPER tests have been validated against Swedish personality measures such as Karolinska Scale of Personality (KSP) and Mood Adjective Check List (MACL), as well as well known international measures such as Minnesota Multiphasic Personality Instrument (MMPI)(Schalling, Åsberg, Edman & Oveland, 1987; Sivik, Delimar & Schoenfeld, 1999a-c; Svensson, Persson & Sjöberg, 1989). Since the Toronto Alexithymia Scale - revised (TAS-r) is the most widely used test for the assessment of alexithymia, it is a natural choice for validating our tests (Bagby, Parker & Taylor, 1994; Bagby, Taylor & Parker, 1994). TAS-r is indeed a very useful instrument for assessment of patients prone to express emotions in an inadequate manner. However, several authors have acknowledged the need for additional instruments that use projective technique. The literature review shows that several other studies have pointed out some shortcomings of TAS-r. In 1994, Newton and Contrada presented results indicating that highly anxious subjects had significantly higher TAS alexithymia scores than (emotional) repressors (Newton & Contrada, 1994). The results suggest that TAS alexithymia and repressive coping are quite distinct, with repression being more similar to low alexithymia than to high alexithymia. In addition, Cohen, Auld and Brooker (1994) presented a study, which indicated that TAS discriminates purely between normal, psychiatric and psychosomatic individuals. This is in concordance with our assumptions, namely that TAS-r to a great degree covers multidimensional aspects of general distress, anxiety and depression and to a lesser degree alexithymia in a stricter sense. The purpose of the present study was to validate the SPS and OPER tests by correlating them to TAS-r.

## METHOD

### *Participants*

Normal population: 88 employees at a university hospital: 58 women (mean age 46, SD = 9.1) and 30 men (mean age 47, SD = 11.3).

Psychosomatic population: 285 patients (236 women ages 20 to 65, M = 41.1 SD = 8.5; 52 men ages 20 to 55, M = 40.3, SD = 8.32) referred for evaluation and/or treatment to the Institute of Psychosomatic Medicine (IPS) in Goteborg, Sweden, during the period from 1994 to 1998. All patients were chronically disabled on long-term sick leave, 96% with multiple diagnoses. The most common diagnoses by the referring physician were fibromyalgia, somatoform pain disorder, autoimmune diseases, cardiovascular diseases, various myalgias, GI disorders, whiplash and low back pain etc. After a thorough investigation at IPS, many patients (64%) were also diagnosed as suffering from chronic or trauma related PTSD. Of the psychosomatic patients, 97 were classified as sub-emotional by two independent clinicians.

### *Instruments*

Sivik Psychosomaticism Test (SPS) measures 4 constructs: Emotional Coping Style (subscales *emotional sensitivity*, *sadness* and *aggression*), Relational Style (subscales *succorance*, *nurturance*, *sexual conflicts*, *trust in others* and *existential trust*), Locus of Control and Assertiveness. Test of Operational Style (OPER) measures the construct Operationality. The SPS test consists of 5 pictures, and OPER is assessed in the first picture. Each picture is an ambiguous image of one or two people, and they are drawn in a way that suggests some form of interaction. The pictures are accompanied by a total of 66 statements, and the respondent indicates to what degree he/she agrees with each statement on a four point scale (do you agree: completely, quite a lot, a little or not at all). Some of the statements are to varying degrees emotionally colored, while others describe actions. The development, design and method of scoring of the tests have been described in detail elsewhere (Sivik & Hösterrey, 1992).

The Toronto Alexithymia Scale - revised (TAS-r) is the most widely used test for the assessment of alexithymia (Bagby, Parker & Taylor, 1994; Bagby, Taylor & Parker, 1994).

### *Procedure*

The testing occurred at different times but the conditions were similar: the healthy subjects completed the tests immediately preceding a lecture on psychosomatic medicine presented by the first author; the psychosomatic subjects completed the tests during their initial in-depth investigation at IPS which takes approximately one week.

All participants were seated. The first page of the test which contains instructions for how to complete the test was read to them by the test administrator.

## RESULTS

The results show that most SPS variables correlate with TAS-r. The correlations are relatively low and evenly distributed across all significant variables, with higher correlations in the patient group (table 1). It could be seen that the correlations between SPS variables and TAS-r are significant for the normal population (from .18 to .31) for all SPS variables except *Trust*, *Nurturance*, *Succorance* and *Locus of Control*. OPER correlates significantly with TAS ( $r = .22$ ). In the total psychosomatic population, all SPS variables except *Succorance* and *Nurturance* correlate significantly with TAS-r (from .19 to .31). There is low, however a significant negative correlation between *Trust* and TAS-r ( $r = -.13$ ), as well as OPER and TAS-r ( $r = -.13$ ). There were also significant correlations between TAS-r and SPS and OPER tests in an under-emotional, or alexithymic, population (range  $r = .19-.38$ ), with negative correlation for *Trust* ( $r = -.21$ ).

Table 1. Correlations between SPS (sub)scales and OPER and TAS-r in a 'normal' sample, in a mixed psychosomatic sample and in an 'sub-emotional' psychosomatic sample

	'Normal' sample (N=285)	Mixed psychosomatic sample (N=88)	'Sub-emotional' Psychosomatic sample (N=97)
ECS	.29**	.33**	.38**
ESENS	.24**	.29**	.37**
SAD	.27**	.34**	.38**
AGG	.24*	.27**	.35**
TRUST	.17	-.13*	-.21*
NUR	.15	.12	.15
SUCC	.15	.14	.17
SEXC	.28**	.29**	.32**
EXTRU	.18*	.19*	.25**
RELST	.21*	.24**	.23**
LOC	.18	.27**	.19*
ASS	.21*	.24**	.27**
SPS	.31**	.31**	.37**
OPER	.22*	-.19*	.32**

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

## DISCUSSION

The results confirm our hypothesis that TAS-r and the SPS and OPER tests assess personality features and coping styles related to the development of psychosomatic disorders. The assumption that TAS-r assesses general distress is also supported, since the correlations between the tests are higher in the patient population and the majority of our patients were clinically labelled as over-emotional or normal. The strongest evidence in support of our hypothesis is that the correlations between TAS-r and most SPS variables are so evenly distributed. They account for 4% to 14% of the partial variance of the factors included in the psychosomaticism construct. The four SPS scales (*Emotional Coping Style*, *Relational Style*, *Locus of Control* and *Assertiveness*) are intercorrelated to a relatively low degree (from .21 to .34), while the correlations between the subscales within each scale are much higher (ECS range from .64 to .98, RelSt range from .25 to .73, SPS range from .26 to .76). The magnitude of the correlations between the concepts provides evidence that the SPS test measures five separate but conceptually interrelated dimensions of the psychosomatic personality profile construct. The extrapolated total variance between TAS-r and SPS thus accounts for 20% to 25% of the total variance of all personality variables included in the psychosomaticism construct. These results indicate that alexithymia, as measured by TAS-r, is multidimensional but not fully represented by a global severity score. We have used the TAS-r test in conjunction with several other tests at the Institute of Psychosomatic Medicine (IPS), in Göteborg, Sweden. The results showed that there are highly significant correlations between TAS-r and BDI ( $r = .55$ ,  $N = 208$ ) as well as between TAS-r and STAI ( $r = .58$ ,  $N = 208$ ) (Beck, Ward & Mendelson, 1961; Spielberger, Gorsuch & Luschene, 1983; Sivik, Delimar & Schoenfeld, 1999d-e). This is in concordance with other research, where it has been argued that TAS-r to a great degree covers multidimensional aspects of general distress, anxiety and depression rather than alexithymia in a stricter sense (Bach, Bach & de Zwaan, 1996; Haviland & Reise, 1996; Rief, Heuser & Fichter, 1996; Wise & Mann, 1994).

Although the correlations between OPER and TAS-r were not very high, it is important to note that the correlation is positive in the normal population, whereas the patient population shows a negative correlation. This shows that operability as a variable is evenly distributed in the general population, while in a psychosomatic population, the over-emotional patients skew the distribution to the left.

In conclusion, the results show that the SPS and OPER tests are valid tests for the assessment of the personality traits and coping styles that underlie the development of psychosomatic disorders. Specifically, our results indicate the importance of usage of projective technique in testing alexithymia. However, more studies are necessary in order to further establish their validity and in order to determine reference values for various cultures and populations.

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