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Sivik Psychosomaticism test and test of Operational Style. Construct validity: relationship with a Swedish Mood Adjective Check List – MACL

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Abstract

The Sivik Psychosomaticism test (SPS) and Test of Operational style (OPER) are reliable and valid instruments for assessing personality characteristics and coping-styles related to the risk for the development of psychosomatic disorders. To further evaluate the construct validity (convergent and divergent), Pearson correlation coefficients between SPS and OPER tests and the Swedish Mood Adjective Checklist (MACL) were calculated. The tests were distributed to 100 patients at a Psychosomatic Clinic and a healthy control.

Significantly negative correlations were found between MACL and SPS scale Emotional Coping Style (all subscales) and SPS total score in both the normal and the patient group as well as several other SPS scales. Positive correlations were found between OPER and MACL variable Extroversion in the patient group.

Key-Words*: Psychosomaticism; Personality test; Construct validity.*

The mechanisms by which emotions and personality interact with bodily functions to create the etiology and pathogenesis of a disorder or disease have preoccupied clinicians and researchers for centuries. Modern psychosomatic medicine focuses on the interaction between psychological, psychosocial, cultural and physiological factors, and their role in the development of disease and the maintenance of health. The field of psychosomatic pathology focuses on the complex interaction between biopsychosocial factors found in the onset and outcome of all human disease (Lipowsky, 1984). Although every patient is by definition psychosomatic, the term *psychosomatic patient* is here used for pragmatic reasons.

Psychosomatic patients are thus individuals in whom the psychological factors of their disease are of a type

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and degree of influence that in order for treatment to be successful the patient requires treatment of both psychological and organic factors of the disease. Since the emotional content of their disorder is mostly hidden in somatic symptoms, one of the main problems has been to identify them in a somatic medical setting. MacLean (1949) described that among psychosomatic patients, a large proportion appeared to have difficulties with symbolic and verbal elaboration. Sifneos coined the term alexithymia to describe this type of individual, and the construct is in itself an important and useful paradigm both in clinical and research settings where alexithymia has been considered one of the main contributing factors in the development of psychosomatic complaints and diseases (Sifneos, 1973; Krystal, 1979; Sifneos, 1975).

However, while recognizing the importance of the alexithymia construct, it is important to realize that one single trait cannot account for all the personality characteristics – conscious as well as unconscious – involved in the development of (psychosomatic) disorders. Although several instruments have been developed for the purpose of assessing those personality characteristics, many of them have shortcomings. Many projective tests are difficult to administer and interpret, and their validity and/or interrater reliability is at times questionable. Structural tests rely on a direct-question format that may be inappropriate since it doesn't allow the clinician to take into consideration all the different psychodynamic personality features of individuals who develop psychosomatic disorders (Bach, Bach & deZwaan, 1996; Cohen, Auld & Brooker, 1994; Haviland, Shaw, Cummings & MacMurray, 1988; Rief, Heuser & Fichter, 1996; Loas, Fremaux, Otmani &Verfier, 1995; Montreuil, Jouvent, Carton, Bungener & Widlöcher, 1991; Wise & Mann, 1994).

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 main deficit of a sub-emotional individual is the inability to recognize feelings, which would be reflected in the test as an under-representation of emotionally labeled statements, in particular of "negative" emotions. For over-emotional individuals, the relationship would be the inverse. Meanwhile, the structured response design effectively circumvents the scoring and evaluation difficulties of projective tests, while increasing the

interrater reliability of the tests. Evidence, supporting the construct validity of SPS and OPER has been demonstrated in several studies examining their relationship to other psychometric tests that assess constructs similar to those assessed by the SPS and OPER (Sivik T, Delimar & Schoenfeld, 1999 a-b). In a recent study examining the relationship between the SPS and OPER tests and Beck's Depression Inventory (BDI), the correlation coefficients were higher in the patient group as compared to the normal control, indicating a connection between mood and psychosomatic disorders (Sivik T, Delimar & Schoenfeld, 1999 b). Several other studies have reported interesting results when examining the relationship between alexithymia and various mood states (Krystal, 1979; Sifneos, 1975; Haviland, Hendryx, Cummings, Shaw & MacMurray, 1991; Parker, Bagby & Taylor, 1991). Fukunishi et al., compared the prevalence rate of alexithymia in a group of patients suffering from peptic ulcers to a group of patients with erosive gastritis. The results showed that alexithymia scores were significantly correlated with scores on Profile of Mood, a test assessing mood states (Fukunishi, Kikuchi, Kaji & Yamasaki, 1997). Goldman et al., designed a study that assessed mood in relationship to symptom reporting (Goldman, Kraemer & Salovey, 1996). The results showed that at increasing levels of distress, individuals who believe in greater attention to mood were more likely to report physical symptoms. In addition, individuals reporting that they generally make efforts to maintain positive mood were less likely to report illness than those who did not engage in mood repair. Their findings suggest that a person's general manner of evaluating or appraising mood is an important moderator of the relation between distress and symptoms and illness reporting.

The aim of the present study was to investigate the relationship between the SPS and OPER and a Swedish test, the Mood Adjective Check List, MACL (Svensson, Persson & Sjoberg, 1989), an inventory which measures constructs that overlap some of the variables assessed by the SPS and OPER. Our hypothesis was that those SPS subscales which measure emotional coping-styles would be negatively correlated to all MACL variables, and that OPER would correlate to those MACL variables which conceptually reflect action proneness, i.e., Extroversion and Activity. We also hypothesized that there is a stronger relationship between MACL and SPS in the patient population.

METHOD

Participants

The patient group consisted of 100 chronic pain patients (men=32, M= 37,4; SD=8,43; women=68, M=43,2; SD=8,39) referred for evaluation and/or treatment at the Institute of Psychosomatic Medicine (IPS) in Göteborg, Sweden, during the period 1994-1998. All patients were chroni-

cally disabled on long-term sick leave, 96% with multiple diagnoses. The most common diagnoses by the referring physician were various myalgias and other chronic pain disorders, auto-immune disease, cardiovascular disease and GI disorders. Many of the patients exhibited noticeable and disabling psychological distress, and were diagnosed as psychosomatic according to current psychosomatic theory. The basic theoretical standpoint of current psychosomatic medicine is that the above mentioned diseases involve substantial psychodynamic and psychological distress, either etiologically and/or in the sense of being a chronic disease and as such affecting a person's psychological well-being. After a thorough investigation at IPS, 64% of the patients were also diagnosed as suffering from chronic or trauma related PTSD. Of the psychosomatic patients, 50% were classified as sub-emotional by two independent clinicians. The comparison group consisted of 89 individuals employed at a university hospital: 51 women (M=46 years, SD=9.1) and 38 men (M=47, SD= 11.3). All were healthy individuals who volunteered for the study.

Instruments

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. 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 coloured, while others describe actions. The development, design and method of scoring of the tests have been described in detail elsewhere (Sivik & Hösterrey, 1992).

MACL consists of 71 adjectives describing feelings. The subject is asked to determine to what degree he/she agrees with the feelings described by the adjectives at the time of completing the test. The subject responds on a four point scale (do you agree? completely, quite a lot, a little or not at all). MACL subscales Hedonism, Extroversion, Sociability, Activity, Relaxation and Calmness were used since they conceptually overlap with SPS and OPER.

In order to evaluate the construct validity (convergent and divergent) of SPS, Pearson correlation coefficients between SPS scales and sub-scales and 6 MACL subscales were calculated.

RESULTS

The results were in concordance

with our hypothesis, revealing the divergent validity of the SPS with the MACL. As expected, all MACL variables were negatively correlated with Emotional Coping Style (all subscales) and with the SPS total score in the healthy comparison group. The subscale Sexuality Conflict showed significant negative correlations to all MACL variables except Calmness, and the SPS variable Locus of Control was negatively correlated to Activity, Relaxation and Calmness. The SPS total score showed significant negative correlations to all MACL variables (Table 1). Significant correlations were also found between several SPS variables and MACL variables in the chronic pain patient group. The correlation pattern in this group shows that the SPS variables assessing emotional strategies, i.e. Emotional Coping Style (all subscales) and total SPS score were negatively correlated to all MACL variables. There were negative correlations between the SPS variable Relational Style and all MACL variables except Extroversion and Sociability, and between the SPS subscale Sexuality Conflict and all MACL variables except Sociability. Locus of Control was negatively correlated to Relaxation, the SPS variable Assertiveness was negatively correlated to Hedonism and Activity, and the SPS total score showed significant negative correlations to all MACL variables. Finally, OPER was positively correlated to Extroversion (Table 2).

Table 1. **Pearsons' correlation coefficient between SPS (sub)scales and OPER with MACL for a group of healthy individuals (N=89), 51 women (M: 46 years, SD 9.1) and 38 men (M: 47, SD: 11.3)**

	HED		*EXTR*		*SOC*		*ACT*		*REL*		*CALM*	
	r	*p*	*r*	*p*	*r*	*p*	*r*	*p*	*r*	*p*	*r*	*p*
Ecs	-0.34	0.001	-0.34	0.001	-0.31	0.004	-0.31	0.003	-0.46	0.0001	-0.32	0.002
Esens	-0.35	0.001	-0.35	0.001	-0.29	0.006	-0.29	0.006	-0.44	0.0001	-0.35	0.001
Sad	-0.32	0.001	-0.32	0.001	-0.28	0.08	-0.29	0.006	-0.42	0.0001	-0.30	0.004
Agg	-0.30	0.005	-0.30	0.005	-0.29	0.007	-0.31	0.004	-0.41	0.0001	-0.23	0.03
Trust												
Succ												
Nur												
SexC	-0.21	0.05	-0.21	0.05	-0.25	0.02	-0.23	0.03	-0.30	0.004		
ExTru												
RelSt												
LoC							-0.26	0.01	-0.22	0.04	-0.26	0.01
Ass												
SPS	-0.22	0.04	-0.22	0.04	-0.24	0.02	-0.21	0.05	-0.24	0.03	-0.22	0.04
OPER												

Table 2. Pearsons' correlation coefficients between SPS (sub)scales and OPER with MACL for a group of chronic pain patients (N=100; men=32; M= 37.4; SD=8.43; women=68 M=43.2; SD=8.39)

	HED		EXTR		SOC		ACT		REL		CALM	
	r	p	r	p	r	p	r	p	r	p	r	p
Ecs	-0.47	0.001	-0.33	0.001	-0.34	0.001	-0.36	0.001	-0.33	0.001	-0.41	0.001
Esens	-0.42	0.001	-0.33	0.001	-0.28	0.001	-0.34	0.001	-0.26	0.01	-0.42	0.001
sad	-0.45	0.001	-0.32	0.01	-0.32	0.01	-0.34	0.001	-0.26	0.01	-0.40	0.001
Agg	-0.44	0.001	-0.24	0.05	-0.36	0.001	-0.34	0.001	-0.38	0.001	-0.27	0.01
Trust												
Succ												
Nur												
SexC	-0.32	0.01	-0.21	0.05			-0.28	0.01	-0.25	0.05	-0.29	0.01
ExTru									-0.20	0.05		
RelSt	-0.30	0.01					-0.24	0.05	-0.26	0.01	-0.21	0.05
LoC									-0.23	0.05		
Ass	-0.21	0.05					-.021	0.05				
SPS	-0.44	0.001	-0.27	0.01	-0.28	0.01	-0.36	0.001	-0.35	0.001	-0.35	0.001
OPER			0.23	0.05								

DISCUSSION

The pattern of correlations for the patient group and the healthy subjects was very similar, thus revealing the construct validity as well as the stability and reciprocity of the SPS and OPER tests. The SPS scale Emotional Coping Style (and all its subscales) assesses the level of emotional strain in the patient, and the negative correlations obtained in both the normal and psychosomatic populations were expected. The SPS total score is similarly, albeit somewhat less strongly, correlated to all MACL variables. This was also in concordance with our hypotheses since the SPS total score mirrors the inter-relation of all the SPS subscales.

According to our theoretical assumption, the construct Operationality would be more strongly related to denial and repression of emotions and affects in psychosomatic patients than in normal healthy individuals. This is supported in the significant positive correlation between OPER and Extroversion in the patient group, and the lack of such a correlation in the healthy control. High scores on operationality shows pathological denial of feelings and/or preoccupation with activity-oriented coping--styles. The results did not show a significant relationship between Operationality and Activity, which we believe is due to the fact that patients were both over and under emotional, and thus patients' scores may have cancelled each other out. Moreover, individuals who are currently expe-

riencing high levels of stress, regardless of their emotional coping-style, show high scores on Operationality, which also may have levelled out the scores.

The significant negative correlations between Locus of Control and the MACL variable Relaxation found for both patients and healthy controls, reveal that external locus of control (demonstrated by high scores on the SPS scale Locus of Control) is related to tension and discomfort. Meanwhile, the significantly negative correlations, for the patient group, between Assertiveness (high scores mirroring neurotic assertiveness, envy and hysterical conversion traits) and the MACL variables Hedonism and Activity could be interpreted as emotionally "forbidden" and hidden affects being revealed by means of projection.

In addition to supporting our hypothesis, the results also confirm recent psychosomatic theory and clinical findings where forbidden emotions and hidden affects can be expressed either in neurotic and/or somatic symptoms. According to current psychosomatic theory, bodily symptoms in psychosomatic disease often represent affect, mood and emotion-equivalents. That is, they are signs whose meaning is unconscious but is perceived and expressed somatically (Chiozza, 1998; Damasio, 1990; Pennebaker, 1990).

In conclusion, the results of this study show the construct validity of the SPS and OPER tests, and that the convergent and divergent correlations between SPS/OPER and MACL are significant and in concordance with our hypothesis. The SPS and OPER tests are useful instruments that clearly delineate the personality profiles and coping-styles that underlie the development of psychosomatic disease. The tests unveil personality profile patterns and coping-styles that are psychodynamically meaningful and therefore applicable in both research and clinical settings. However, further validation studies are needed to ensure the validity of the instruments. It is also important to develop cross cultural validation studies, in order to ensure that the concepts as measured by the SPS and OPER tests are not culturally biased.

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