

Self-Esteem and Epilepsy: Evaluation of the Adult Self-Perception Profile*

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Summary

In this paper we present an exploratory study of the psychometric properties of a Portuguese version of the Adult Self-Perception Profile (Messer and Harter, 1986) with epileptics, asthmatics and a healthy group. This measure, based on a cognitive developmental approach of self-concept, was devised in order to tap domain-specific judgments of competence or adequacy in eleven separate domains, as well as global perception of one's worth as a person. Results of the factor analysis suggest the presence of six self-esteem factors on the scale. Reliability of the subscales was established by internal consistency procedures and results evidenced adequate coefficients on most subscales. The limitations of the study and future research needs of the ASPP are discussed.

Resumo

Apresenta-se um estudo exploratório das características psicométricas de uma versão portuguesa do *Adult Self-Perception Profile* (Messer e Harter, 1986) com uma amostra de epiléticos, asmáticos e adultos saudáveis. Este instrumento baseia-se numa perspectiva cognitiva e desenvolvimental do auto-conceito e avalia julgamentos pessoais de competência e de adequação em onze domínios de vida específicos, assim como a auto-estima global. Os resultados da análise factorial sugerem a presença de seis factores ortogonais, sendo os valores da consistência interna satisfatórios para a maioria das subescalas. Apontam-se as principais limitações deste estudo e as necessidades de investigação futura com este instrumento.

Keywords: Self-esteem evaluation; epilepsy; scales.

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Introduction

A large and growing body of literature published over the past two decades has demonstrated the importance of the psychosocial dimensions of epilepsy. Issues involving the self and the selfsystems are gaining increasing attention in research. Among those interested in the topic of self-esteem, there is an increasing awareness that evaluative judgments of self-worth or self-acceptance do not merely represent cognitive self-appraisals but provoke affective reactions which in turn may mediate and organize behavior. While most theorists recognize that the self-concept is multidimensional, the available measures do not adequately capture this

complexity. The *Adult Self-Perception Profile - ASPP* (Messer and Harter, 1986) was developed in response to the need for a psychometrically instrument which reflected the complexity of a multidimensional adult's selfconcept. This new instrument was based on Harter's theoretical conceptualization of the self-concept (see Harter, 1983 for a review). The author's approach in developing the ASPP scale has been to adopt a differentiated and developmental approach to the components of an adult's perceived sense of competence/adequacy. Messer and Harter's scale is based on the premise that adults distinguish between the following eleven specific domains: *socialability, job competence, nurturance, athletic abilities, physical appearance, adequate provider, morality, household management, intimate relationships, intelligence, and sense of humor*. Global self-worth or global self-esteem, advocated as a more global

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evaluation about the self, is tapped in this scale directly and independently of the domain-specific judgments. Instruments such as the ASPP may have diagnostic utility and can be included in a battery of tests for the assessment of adults with epilepsy, enabling the identification of specific problematic areas for intervention, or as a measurement of change during treatment.

An available study of the psychometric properties of ASPP is reported by Messer and Harter (1986). The factor structure of the scale was explored with a sample of 215 middle and lower class women. The average age for middle class women was 26 and for the lower class women was 22. 90% of these women were married and had completed high school, and 50% attended college. The average number of years of education was 14.67. Based on previous work with the Self-Perception Profile for Children (Harter, 1986), the General Self-Worth items were not included in the mentioned study since they did not systematically or meaningfully load on particular factors for an entire sample. A ten-factor structure emerged, with the average factor loadings ranging from .65 (Factor I-Household Management) to .89 (Factor X-Sociability). Job Competence did not define its own factor which, according to the authors, might in part be due to different interpretations of the items, given the fact that half of the sample were mothers/homemakers whose primary job involved child rearing, while others were working women. Messer and Harter (1986) anticipated that in other samples (e.g. men, non-parents, women working full-time outside the home) the subscale Job Competence would emerge as a separate factor. In what concerns the General Self-Worth scores, the authors advocated that they are best predicted by just those domains which individuals deem important and suggest the operationalization of importance by presenting subjects with a separate rating scale in which they are asked to think about how important each of the eleven domains is to "how they feel about themselves as a person". Messer and Harter (1986) also reported internal consistency coefficients for all the eleven measures of ASPP concerning the responses of the above mentioned sample. Although the authors did not report the coefficients for Adequate Provider, they specify that the reliabilities of this scale were severely restricted, since it yielded the lowest scores. For the other subscales, internal consistency scores ranged from .73 (Job Competence) to .91 (Global Self-Worth).

The present study was intended to explore the factor structure and to examine the internal consistency of a translated version of the ASPP. The purpose

for studying the ASPP psychometric properties was to decide if the instrument was ready for operational use in a larger research project on the psychosocial aspects of epilepsy in the Portuguese population.

Methods

Subjects

The sample comprised 240 subjects: a group of 80 persons with epilepsy, a group of 80 persons with asthma and a group of 80 healthy persons. Subjects were selected according to the following criteria: (a) a clinical diagnosis of epilepsy or of asthma, (b) the absence of any other serious physical handicap or psychopathology, (c) an age range of 16 to 50 years, (d) a minimum of 4 years of formal education (primary school), (e) the possibility of leading a regular personal, family and social life, (f) the adequate ability to complete the questionnaire.

The epileptic group comprised 42 males and 38 females, with an average age of 27 years and an average of 8 years of formal education. The age at onset of disorder averaged 15 years (ranging from 1 to 41 years). The seizure diagnosis followed the Proposal for Classification of Epilepsies and Epileptic Syndromes (Dreifuss et al., 1985). In the asthmatic group, there were 34 males and 46 females. The mean age was 30 years and formal education averaged 7 years. The age at onset of disorder averaged 14 years (ranging from 0 to 48 years). In the healthy group, 36 were males and 44 were females. The mean age was 27 years and formal education averaged 10 years. The comparison of the distribution of the socio-demographic and clinical characteristics among the three groups revealed significant differences for the educational level (higher in the healthy group), and age at onset of disorder (asthmatics begun the disease more frequently in childhood, while epileptics begun more frequently in adolescence).

Measure

Adult Self-Perception Profile - ASPP (Messer and Harter, 1986). The ASPP is a 50 item self-report measure that assesses one's domain specific competence/adequacy judgments as well as one's sense of global self-esteem. The ASPP includes eleven specific domains, plus Global Self-Worth. The contents of the twelve subscales are: *Sociability* - one's social behaviour in the presence of others; *Job Competence* - feeling productive, competent and proud of one's work; *Nurturance* - the process of caring for others; *Athletic Abilities* - one's sense of competence in sports and the willingness to participate and try new physical activities; *Physical Appearance* - the way

one looks and feeling attractive; *Adequate Provider* - supplying the means of support for oneself and one's significant others; *Morality* - one's behaviour based on standards of conduct, what is right or wrong; *Household Management* - guiding or handling activities in the household; *Intimate Relationships* - close, meaningful interactions or relationships with one's mate, lover and/or special friend; *Intelligence* - the ability to learn and know, and feeling smart and intellectually capable; *Sense of Humor* - the ability to see the amusing side of things; *Global Self-Worth* - one's global perception of worth, independent of any particular domain of competence or adequacy.

The ASPP may be administered in groups as well as individually. Total administration time should be approximately 20 minutes. The response categories in this scale represent a four-point Likert-type scale. Two statements are made per item. Subjects are asked to select which type of adults is most like them and then to indicate how true this statement is for them, by checking either "Sort of true for me" or "Really true for me". A sample question is given below:

Really True for me	Sort of True for me		Sort of True for me	Really True for me
<input type="checkbox"/>	<input type="checkbox"/>	BUT	<input type="checkbox"/>	<input type="checkbox"/>
Some adults like the way they are leading their lives			Other adults don't like the way they are leading their lives	

Items within each scale are counterbalanced such that half begin with a statement reflecting high competence or adequacy and for the remaining, the statement begins with a description of low competence or adequacy. The general scoring procedure is to score each item on a scale from 1 to 4, where 1 represents the least adequate self-judgment and 4 represents the most adequate self-judgment. The item scores for those with the most adequate description on the left are scored 4, 3, 2, 1 (from left to right) (see example above), whereas the item scores for those with the most adequate description on the right are scored 1, 2, 3, 4 (from left to right). Mean scores for each subscale are obtained by adding the four item scores and then dividing by 4 (with the exception of Global Self-Worth subscale which requires adding 6 items and dividing by 6). Scoring will result in a total of 12 subscale means which define a given adult's profile. These mean scores can range from 1 to 4.

Procedure

The original version of ASPP was translated from English into Portuguese. The translation of the

ASPP was made as literal as possible, adherent to standard Portuguese vocabulary, in order to eliminate semantic distortions arising, for example, from the use of idiomatic phrases. This version of ASPP was then submitted to a small group of epileptics, of asthmatics and of healthy people. After the administration, subjects were individually asked to refer possible difficulties in question comprehension and in question format. The version was then discussed among the researchers until a consensus was reached regarding it.

The same version of ASPP was administered to the subsamples of epileptics, asthmatics and of healthy people. All subjects were assured of anonymity. Subjects were tested individually or in small groups of up to 4 persons. More than 80% of the subjects completed the scale within 35 minutes.

A licensed psychologist monitored each person's sheet at the onset to make certain that the subject was answering in a correct form.

Results

Factor Structure of ASPP

The correlation matrix for the 50 items of ASPP was factor analysed using the Principal Factoring with iteration method - PA2 (using the Statistical Package for Social Sciences, Hull and Nie, 1979). Both orthogonal and oblique rotations were used to compare items loadings and degree of correlations between factors. The factor matrix was rotated using Varimax (orthogonal) solution and extraction of 6 factors. The six factors were extracted based on: (a) Cattell's "Scree" test criterion (Cattell, 1966), relating eigenvalue magnitude to its serial order; (b) theoretical concurrence with Harter's model of self-concept, (c) analysis of previous correlation and factor loadings of ASPP, of the eigenvalues and of the percentage of variance accounted for by 12, 11, 10 and 8 factors. The cut-off loading of approximately .35 was chosen because the factors could be interpreted easily using this cut-off. Analyses for each of the groups and for all the sample were performed. A similar pattern occurred in all the groups' structure. Table 1 presents a summary of the factor analysis with Varimax rotation of ASPP for the entire sample, with the loadings for each item on the rotated factors and the item content.

The items that loaded over .35 on **Factor 1** tapped all the *Sociability and Intimate Relationships* items and almost all the items of *Sense of Humor* dimension. **Factor 2** was composed of almost all the *Global Self-Worth* and all of the *Physical Appearance* items. The items that loaded on **Factor 3** referenced items of *Intelligence* and *Morality*. The items loading

Table 1. Factor structure matrix of ASPP, with varimax rotation

	FACTORS 1	2	3	4	5	6	Items Content
SUBSCALES							
SOCIABILITY							
2	.406*	.322	.034	-.058	.121	.146	feeling enjoyable to be with
14	.560*	.074	.093	.007	.113	-.019	liking to meet new people
27	.651*	.242	.064	-.004	.006	.075	feeling at easy with other people
39	.513*	.264	.045	.234	.050	.003	being sociable
JOB COMPETENCE							
3	.076	.194	.101	.175	-.175	.046	being satisfied with the way one does his/ her work
15	-.006	.213	.089	-.071	.036	.023	feeling competent
28	.153	.153	.253	.052	-.065	.164	feeling productive
40	-.003	.299	.189	.336	-.064	.170	being proud of one's work
NURTURANCE							
4**	-.144	.104	-.137	.296	.146	.124	fostering the growth of others as a contribution to the future
16	.248	.009	.068	.500*	-.014	.123	enjoying fostering the growth of others
29	.154	.150	.157	.491*	.177	.138	feeling good at nurturing others
42	.178	-.056	.115	.538*	-.031	.136	enjoying to nurture others
ATHLETIC ABILITIES							
5	.221	-.011	.188	-.062	.544*	-.122	participation in sports
18	.016	.211	-.014	-.015	.460*	.146	willingness to try new physical activities
30	.130	-.005	.037	.024	.752*	-.127	feeling competent in sports
43	.109	.040	.066	.069	.774*	-.058	feeling more competent in sports than other adults
PHYS. APPEARANCE							
6	.092	.640*	.030	.173	.046	-.010	being happy with the way one looks
19	.222	.350*	.280	-.010	.223	-.028	thinking to be attractive
31	.194	.691*	.057	.134	.049	-.010	liking one's physical appearance
44	.166	.415*	-.035	.010	.125	-.035	being satisfied with one's face or hair
ADEQUATE PROVIDER							
7**	.060	.001	.215	.139	-.069	.125	feeling to adequately support oneself and those who are important
20	.052	.268	.103	.425*	-.049	.123	being satisfied with how one provides for important people
32**	.097	.176	.313	.237	.080	.096	feeling to be able to provide for the maternal necessities of life
45	.149	.138	.046	.475*	-.041	.188	feeling to adequately provide for the needs of important ones
MORALITY							
8	-.030	.176	.448*	.176	-.003	.069	living up to one's moral standards
21	.082	.010	.464*	.103	-.009	-.023	thinking to be a moral person
34**	-.087	.090	.173	.304	-.030	.243	doing what one knows is morally right
46	.067	.024	.621*	-.017	-.092	.165	feeling that one's behavior is ethical
HOUSEH. MANAG.							
10	-.077	-.076	.060	.142	-.049	.478*	being organized at household tasks
22	.123	.017	.191	.218	-.015	.558*	ability in keeping the household running smoothly
35	.022	.014	.145	.207	.034	.627*	being efficient in managing activities at home
47	-.090	-.015	-.081	.145	-.076	.726*	using one's time efficiently at household activities
INTERP. RELATIONSHIPS							
11	.496*	.218	.193	.196	.009	.100	ability to develop intimate relationships
23	.400*	.119	.212	-.004	-.022	.141	ability to establish intimate relationships
36	.357*	.162	.181	.091	.074	-.115	seeking out close relationships
48	.514*	.011	.295	.190	.130	-.062	feeling it easy to communicate openly in close relationships
INTELLIGENCE							
12	.188	.157	.286	.057	.091	-.039	feeling stupid when not understanding something
24	.235	.205	.372*	.009	.183	.072	feeling intelligent
37	.223	.127	.595*	.129	.110	-.035	feeling intellectually capable
49	.202	.044	.507*	.051	.211	.005	feeling as smart as other adults
SENSE OF HUMOR							
13**	.245	.067	.141	.182	.012	-.139	ability in laughing at oneself
26	.527*	.136	.115	.048	.209	.031	ability to joke or kid around with friends and colleagues
38	.385*	.310	-.026	.138	.068	.058	feeling one has a good sense of humor
50	.495*	.016	.113	.160	-.001	-.172	ability to find humor in one's life
GLOBAL SELF-WORTH							
1	.137	.376*	.113	.172	-.073	.040	liking the way one leads his/her life
9	.332	.562*	.160	.173	-.018	-.076	being pleased with oneself
17**	.165	.324	.421*	-.041	.154	.205	feeling oneself as a worthwhile person
25	.311	.488*	.297	.264	-.014	-.047	being pleased with oneself
33	.187	.458*	.288	.441	-.022	-.065	being satisfied with oneself
41	.274	.576*	.277	.255	.044	-.083	liking the kind of person one is
Prerotatn eigenv.	8.33	2.81	1.83	1.46	1.30	1.00	
Posrotatn eigenv.	8.95	3.41	2.41	2.07	1.94	1.65	
Common Variance (%)	49.8	16.8	11.0	8.7	7.8	6.0	
Accu. Variance (%)	49.8	66.6	77.5	86.2	94.0	100.0	
Total Variance (%)	17.9	6.8	4.8	4.1	3.9	3.3	Total 40.9

* Items loading >.35

** Item dropped out from the scale

Table 2. *Internal consistencies for ASPP (Cronbach's ALPHA)*

SUBSCALES/N ^o of items	EPILEPTICS			ASTHMATICS			HEALTHY		
	Mean	St.Dev.	Alpha	Mean	St.Dev.	Alpha	Mean	St.Dev.	Alpha
I (Sociability/Int.Relationships/ Sense Humor) N=1	30.44	6.46	.81	30.88	5.75	.78	32.10	6.59	.85
II (Cl. Self-Worth/Phy. Appear.) N=9	25.40	5.83	.87	25.70	4.84	.77	26.40	5.19	.85
III (Intelligence/Morality) N=6	16.34	3.44	.64	16.20	3.12	.63	18.25	3.34	.77
IV (Nurturance/Ad.Provider) N=5	15.56	2.89	.70	15.64	2.48	.64	15.79	2.77	.78
V (Athl. Abilities) N=4	9.50	2.69	.71	8.68	2.48	.65	10.06	2.93	.78
VI (Hous. Manag.) N=4	11.56	2.80	.66	11.49	2.90	.75	11.55	3.28	.81

on **Factor 4** represented the *Nurturance and Adequate Provider* dimensions. The items loading on the **Factor 5** reflected *Athletic Abilities* dimension. The items loading on **Factor 6** tapped *Household Management*. *Job Competence* was the only subscale that has not defined a factor. The total variance of 40,9% was accounted for by the 6 factors. In this orthogonal structure, the items appeared to be of low complexity since all but item 33 loaded on just one factor. Cross loadings were negligible. Six items (4, 7, 32, 34, 12, 13) did not meet the criterion for inclusion on either factor. One of these items refers to Humor (13), one to Morality (34), one to Intelligence (12), one to Nurturance (4) and two to Adequate Provider (7, 32).

When submitted to oblimin rotation solution, configuration of the variables partially remains. The oblique rotation revealed that the factors were only moderately correlated (most of them do not exceed .30), suggesting that they represent related but relative independent constructs (Tabachnick and Fidell, 1983). The relatively low actual correlations between these factors and the examination of the pattern of structure coefficients for the ASPP suggested that the oblique rotation might provide a less satisfactory solution. Furthermore orthogonal rotation led to conceptual simplicity and ease of description.

Internal Consistency of ASPP

Table 2 presents the means and the standard de-

viations of the sum of scores and the internal consistency coefficients for the six obtained orthogonal factors, by group. These coefficients were based on Cronbach's Alpha. The internal consistency coefficients are quite acceptable, ranging from .71 (Factor III-Intelligence/Morality- and Factor IV-Nurturance/Adequate Provider) to .83 (Factor II-Global Self-Worth/Physical Appearance) for the total sample. Global Self-Worth/Physical Appearance Factor yielded the highest coefficients for the epileptics and the healthy group and Sociability/Intimate Relationships/Sense of Humor Factor yielded the highest coefficients for both the asthmatics and the healthy group. As it could be expected, these two scales were longer and produced higher correlations coefficients. Two factors, Intelligence/Morality (Factor III) and Nurturance/Adequate Provider (Factor IV) yielded lower reliabilities.

Discussion

The present study was intended to explore the factor structure and to examine the internal consistency of the ASPP. A plausible expectation was that for the ASPP, the rotated factor matrix should define psychologically interpretable and distinct dimensions in a fairly clear simple structure or configuration that would reflect Harter's hypothesized constructs.

Contrary to the findings of Harter's previous factor analysis structure, these data indicate that the

10 factor model of self-esteem dimensions may not accurately account for the ASPP responses of our samples. The exploratory factor analysis of the translated version defined a six orthogonal factor structure. Factor 1 involved an interpersonal relationship dimension, related to communication with others. Factor 2 characterized an identity or self-relationship dimension, and it seems that Global Self-Worth judgments are influenced by Physical Appearance specific evaluations. This finding is consistent with Harter's previous work (Harter, 1988) and leads to infer that, in our society, physical appearance may be particularly important to one's sense of selfworth. Intelligence and Morality items defined Factor 3, suggesting that our subjects seemed to perceive intellectual competence as related to behavioral conduct. Adequate Provider and Nurturance subscales' items loaded on factor 4 and appear to unify a caring dimension, related to emotional support to others. Athletic Abilities and Household Management subscales' items loaded on factor 5 and 6, respectively. These factors contribute, however, little to the total variance. Moreover, the results from this study add weight to Harter's observation that there is no Job Competence factor.

The general pattern of the factor structure of ASPP appeared similar among the three groups, suggesting that the dimensions that identify the self-evaluations of these clinical populations are identical to those of the healthy group. It is however possible that this instrument did not tapped particular important aspects of the self-concept of clinical populations, namely the perception and feelings of competence related to medical and health issues. These seem to be particularly important when it concerns chronic diseases that can last a life-long and can interfere with the developmental psychological processes underlying the construction and maintenance of the self-concept. These results may be, however, function of the nature of the samples used, because the demographic characteristics of the clinical groups approximated those of the healthy subjects.

The not replication of the original ten factor structure can be justified by different factor analytic procedures used, cultural and social differences in what concerns the self-concept's dimensions of an adult, and possible problems of translation and item comprehension.

The outcomes of this exploratory factor analysis can be used in confirmatory factor analyses to test hypotheses regarding the factorial structure of the self-esteem measure employed. Although this study yielded useful data on ASPP, we need to acknowledge

the study's limitations and the need for continued research on the instrument and theory. Our factor structure of the ASPP was derived from a single exploratory factor analysis with a single composed sample of adults. The robustness of these results and the reliability of the factor solution and of the internal consistency coefficients here need cross validation with other samples.

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