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Self-Efficacy Survey: a new assessment tool

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Abstract

Self-efficacy is a key protective factor against psychological stress. The construct claims as a valid and reliable measure targeting various fields of a person's daily life. The present study presents a measure of a person's representations about his or her own competencies in various functional areas. The designed instrument offers a multidimensional assessment of self-efficacy in ten functional areas: intellectual, family, educational, professional, social, religious, erotic, moral, life standard and health. The preliminary data has proved satisfactory psychometric qualities. We believe the measurement we proposed can be used in the counselling practice and further studies in the subject of self-efficacy

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1. Introduction

The present assessment tool - Self Efficacy Survey (SES) - is based on the socio-cognitive theory of perceived self-efficacy proposed by A. Bandura. In the author's view, the perceived self-efficacy concept consists in the belief system that people have regarding their capabilities to produce designated levels of performance that exercise influence over events and situations affecting their lives (Bandura, 1994). People with a strong sense of self-efficacy easily approach difficult tasks, they heighten and sustain the necessary effort to achieve their objectives and consider they can manage all challenges they deal with, quickly recovering their sense of efficacy after failures or setbacks. By contrast, people with a low sense of self-efficacy avoid having to deal with tasks involving a high degree of difficulty, considering themselves incapable of solving problems and quickly losing confidence in their own capabilities thus displaying the tendency to remain focused on the experience of failures and setbacks (Bandura, 1995).

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According to the same author, the relationship between people's beliefs with regards to their capabilities of achieving a high performance in various functional areas, as well as the relationship between the perceived self-efficacy and the experience of failure and setbacks frequently leads to distress (Bandura, 1997) which, in turn, leads to various psychological and psychosomatic disorders. The empirical research has revealed further significant correlations between a low perceived self-efficacy and various psychological or psychosomatic disorders. Bandura believed that people with a low sense of self-efficacy tend to also have a low self-esteem that may lead to depression (Bandura, 1997).

Research on depressed cancer patients has also shown that these patients have a low perceived self-efficacy (Mystakidou et al., 2010). Studies undertaken by Moore and Williams (2011) on obese subjects with low impulse control on eating have shown that among obese persons there is a strong correlation between the undergone distress and low perceived self-efficacy. Furthermore, the assessment in the field of health psychology conducted by Schwarzer and Jerusalem using the Generalized Self-Efficacy Scale has proved a consistent relationship between distress and the perceived self-efficacy (Schwarzer & Jerusalem, 1995).

2. The Self-Efficacy Survey. Rationale and content

As mentioned above, the Self-Efficacy Survey (SES) was designed to evaluate ten functional areas of life: intellectual, family, educational, professional, social, religious, erotic, moral, life standard and health. In the development of SES items the following procedure was used: a) a pool of 150 items was created by the authors (15 for each scale) and b) two expert judges, other than the authors, examined all the items for content validity. Unacceptable or irrelevant items were eliminated but the c) 130 remaining items were included in a questionnaire and applied to 246 participants, d) internal consistency values were computed, 26 items were removed, e) 104 remaining items were applied to 180 subjects, other than the first 246 participants, then f) after four weeks the 104th form of SES was reapplied to 100 participants for test-retest coefficients.

Each item contained a six-point Likert-type scale response format (1 = strongly disagree, 6 = strongly agree), whereas each scale of the questionnaire assessed the subject's perceived self-efficacy in the respective area of life.

A high educational self-efficacy means the subject is satisfied with the education he or she achieved. A high intellectual self-efficacy means the subject is satisfied with his or her intellectual performance and the difficulty degree of tasks he or she can deal with. A high family self-efficacy means the subject believes his or her family trusts him or her, and the members of their family are offering the social and emotional support needed. The high professional self-efficacy means the subject is satisfied with his or her professional position and the recognition of their professional capabilities by colleagues. A high social self-efficacy means the subject is satisfied with their social status and social recognition. The high erotic self-efficacy means the subject is satisfied with his or her intimate life and performance within intimate relations. A high religious self-efficacy means the subject feels at peace with divinity and his faith. A high moral self-efficacy means the subject is at peace with all decisions judged in terms of good and evil. A high life standard self-efficacy implies ones satisfaction regarding personal well-being. Last, a high health self-efficacy means the subject feels very good physically and emotionally and does not believe he or she should at that particular time currently undergo any treatments. Denial of any of the statements above implies a low self-efficacy in the respective area of life.

3. Participants and statistical procedures

A nonprobability purposive sampling technique was used to locate respondents for this study. The SES was administered to a sample of 426 undergraduate students (49% female, 51% male, aged between 25

and 55, medium age 26 years) studying Law, Economics, Psychology in a private university and technical faculties in a public university in Bucharest, Romania who had priorly expressed their interest in attending our study. The first version of SES (130 items) was administered to a sample 246 participants. An item analysis was performed and the internal consistency was estimated resulting in the removal of 20% of the items. The final pool of 104 remaining items was administered to another convenience sample of 180 participants having the same characteristics as the first sample.

4. Results

4.1. Reliability

Reliability of any given measuring instrument is often expressed based on the internal consistency and the stability in time of the results (Anastasi & Urbina, 1997).

Table 1. Cronbach's alpha coefficient (first and final pool of items)

SES scales	Cronbach's alpha (130 items)	No. of items	Cronbach's alpha (104 items)	No. of items
Intellectual	.64	12	.76	9
Professional	.69	12	.75	10
Educational	.71	14	.75	11
Social	.48	13	.75	9
Family	.69	12	.78	10
Health	.81	12	.84	10
Moral	.75	13	.77	11
Religious	.73	14	.84	11
Erotic	.80	18	.82	15
Life standard	.69	10	.75	8
Total		130		104

In order to estimate the internal consistency of the ten scales, the Cronbach's alpha values were computed. The initial version of SES was administered to a number of 246 participants. The values of the internal consistency ranged between .48 and .81 (see Table 2). After the initial analysis, 26 items were removed (an average of 2-4 items were removed on each scale). The new version of the questionnaire was administered on a new sample of 180 subjects. The final version of SES obtained internal consistency coefficients values between .75 and .84 (see Table 1), fact which in our opinion attests that the test items measure the same construct (McIntire, 2010).

Out of the 180 subjects tested with SES in the second phase of the study, 100 were retested, under the same conditions, four weeks later (see Table 3). Correlation coefficients between the test and the retest scores proved to be in the interval .72 - .74 ($p < .01$).

In conclusion, the described reliability studies indicate that SES allows for accurate assessment of Self – Efficacy and an acceptable error in situation of test-retest described above.

Table 2. The test-retest reliability (N=100)

Scale	Test-retest reliability	Scale	Test-retest reliability
Intellectual	.75 **	Health	.82 **
Professional	.81 **	Moral	.77 **
Educational	.80 **	Religious	.79 **
Social	.79 **	Erotic	.78 **
Family	.75 **	Life standard	.74 **

** $p < .01$

4.2. Construct validity

For the external construct validity we performed a series of correlations, respecting the provisions of the literature in the matter (Sherer, 1982), between SES scales and scales of other tests (whose validity and reliability had already been proven): Survey of Work Styles (SWS), Jackson Vocational Interest Survey (JVIS), General Ability Measure for Adults (GAMA), NEO Personality Inventory-Revised (NEO PI-R) and Achievement Motivation Inventory (AMI).

The Intellectual self-efficacy scale correlates with Dominance/AMI ($r = .54, p < .001$), Confidence in Success/AMI ($r = .54, p < .001$), Preference for Difficult Tasks/AMI ($r = .48, p < .001$), Independence/AMI ($r = .47, p < .001$), Assertiveness/NEO PI-R ($r = .46, p < .001$), Competence/NEO PI-R ($r = .45, p < .001$), intelligence/ GAMA ($r = .24, p < .05$). Intellectual self-efficacy also correlates with influence and persuasion skills, trust in own strength, ambition to overcome obstacles and challenges, autonomy and capacity to lead others while feeling competent to do this. The positive correlation with the result of cognitive skills test/GAMA represents a starting point in achieving criteria validity, aspect which will not be fully reached at this stage.

Professional self-efficacy correlates with Fearlessness/AMI ($r = .46, p < .001$), Preference for Difficult Tasks/AMI ($r = .45, p < .001$), Self-Control /AMI ($r = .44, p < .001$), Conscientiousness/NEO PI-R ($r = .49, p < .001$), Vulnerability/NEO PI-R ($r = -.46, p < .001$), Competence/NEO PI-R ($r = .51, p < .001$), Self-Discipline/NEO PI-R ($r = .50, p < .001$). Unlike intellectual self-efficacy, the professional self-efficacy scale correlates with self-control and self-discipline, with conscientiousness, competence and a sense of duty.

Educational self-efficacy correlates with Competitiveness/AMI ($r = .34, p < .001$), Conscientiousness/NEO PI-R ($r = .29, p < .01$), Dutifulness/NEO PI-R ($r = .28, p < .01$) indicating the person is oriented to competing and comparing himself or herself with others, self-disciplined and having moral feelings. Social self-efficacy correlates positively with Fearlessness/AMI ($r = .45, p < .001$) and negatively with Neuroticism/NEO PI-R ($r = -.44, p < .001$), Anxiety/NEO PI-R ($r = -.32, p < .001$), Angry Hostility/NEO PI-R ($r = -.33, p < .001$). This association indicates conducts like courage, adventure spirit, optimism, calm and kindness.

Familial self-efficacy correlates with Confidence in Success/AMI ($r = .45, p < .001$) and Conscientiousness/NEO PI-R ($r = .37, p < .001$).

Health self-efficacy correlates positively with Internality/AMI ($r = .43, p < .001$), Self-Discipline/NEO PI-R ($r = .44, p < .001$), and negatively with the following scales of NEO PI-R: Neuroticism ($r = -.69, p < .001$), Anxiety ($r = -.55, p < .001$), Angry Hostility ($r = -.48, p < .001$), Depression ($r = -.67, p < .001$) and Self-Consciousness ($r = -.56, p < .001$).

Moral self-efficacy correlates negatively with the following scales of NEO PI-R: Neuroticism ($r = -.44, p < .001$), Depression ($r = -.49, p < .001$) and Self-Consciousness ($r = -.47, p < .001$).

Religious self-efficacy is associated with interest for Social Service /JVIS ($r = -.35$, $p < .001$), indicating the subjects interested in helping people manage the problems they are dealing with.

Erotic self-efficacy correlates negatively with the scales Vulnerability/ NEO PI-R ($r = -.48$, $p < .001$) and Self-Consciousness/NEO PI-R ($r = -.41$, $p < .001$). Thus, poor erotic self-efficacy indicates that the persons are confident, adaptable and able to control themselves in difficult situations.

Life standard self-efficacy correlates with the AMI scale of Confidence in Success ($r = .32$, $p < .001$) The Life standard self-efficacy indicating confidence in his/her own strength and optimism

Confirmation of several predicted conceptual relations between the SES scales and personality measurements like AMI and NEO PI-R provided evidence of the construct's validity.

5. Conclusions

The new instrument has proved to possess satisfactory psychometric qualities and can offer to interested authors a pool for the recruitment of the items that operate the level of the self-efficacy feeling in different functional areas of the individual.

As far as psychological counselling is concerned, the data obtained from the SES questionnaire allows the psychologist to understand the stress generating functional areas of the human personality. As a result, the psychological counselling can be directed towards the disadaptive contents particular to the counseled client. Moreover, used in conjunction with the cognitive assessment tools such as the Young Schema Questionnaire, which indicates the disfunctional patterns of the cognitive schemata or the Dysfunctional Attitude Scale, SES has the ability to complete the clinical portret of the subject, allowing one, therefore, to know in depth the resorts of the human personality that create disadaptation and disfunctionality.

The Self-Efficacy Survey (SES) contributes on the one hand to the identification of the disfunctional scales of a given individual that displays disadaptive thought patterns generated by the cognitive schemata and by dissadaptive attitudes, and on the other it helps identify the disadaptive causal attribution.

Among the limitations of the present study, one needs to mention both the limited number of subjects and the necessity to apply the questionnaire to a larger clinical study group, factors without which the SES validity cannot be completely confirmed.

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