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# THE SCALE OF READINESS FOR SELF-IMPROVEMENT: AN ANALYSIS OF ITS INTERNAL CONSISTENCY, THEORETICAL VALIDITY AND RELIABILITY

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## SUMMARY

### Background:

This article presents a proposed instrument to measure readiness for self-improvement understood as an individual's intention to improve their own characteristics, skills, health, or well-being.

### Material/ Methods:

Four studies were conducted to check the reliability and validity of the SRSI scale. In order to check the structure of the tested construct of readiness for self-improvement the explanatory factor analysis and the confirmatory factor analysis were applied to two separate studies. Then, Cronbach's Alpha was performed to ascertain reliability of the SRSI scale. Next, two other studies were conducted to ascertain SRSI theoretical validity. NEO-FII (Costa, McCrae 1987 adapted by Zawadzki, Strelau, Szczepański, Śliwińska 1998) and life satisfaction scale (Czapiński, Panek 2009) were used to measure theoretical validity of the SRSI scale.

### Results:

The results of four independent tests are presented here, indicating that the Scale of Readiness for Self-Improvement (SRSI) has not only internal consistency and good reliability (tests 1 and 2), but also theoretical validity (tests 3 and 4). The results of test 3 showed that the SRSI gives results that correlate with those of the NEO-FFI; test 4 showed similar correlations between the SRSI and the Measure of Total Life Satisfaction.

### Conclusions:

The SRSI presented here, which identifies the individual's attitude towards self-improvement, can be a useful instrument in the context of anticipating changes in the behavior of people in health and illness. Moreover, this scale can make it possible to make a preliminary evaluation of one of the individual's personal resources, which is readiness for self-improvement.

**Key words:** health, well-being, personal development

## INTRODUCTION

Within the school of humanistic psychology and the related school of positive psychology, which also has its roots in neuropsychology, the aspiration to self-actualization or self-realization (including, for example, the development of the individual's talents and virtues, exceeding one's own capabilities and achievements and aspiring to the realization of universal psychological needs, such as autonomy, competence, and affiliation) is regarded to be a factor of major significance in achieving well-being or quality of life (Maslow, 1970/2009; see also Koziński, 2001; Ryan & Deci, 2000; Seligman, 2002; Hofmeijer, 2005). By the same token, research on the topic of self-improvement, i.e. the aspiration to improve one's own characteristics, skills, or health (cf. Taylor, Neter, Wayment 1995, por. także Wojciszke 2002), in the context of searching for the correlates of well-being, should be an important subject for psychological research. The activation of self-improvement leads to personal development and better adaptation to the social environment (Sedikides & Strube, 1997). Self-improvement is an aspirational feature (that is, it affects the individual's growth and development; cf. Elliot & Mapes, 2005), and so it also involves using feedback, which makes it possible to correct and improve oneself in order to develop one's personal capacity. Despite the importance of this concept, however, it is the least studied of the four particular dimensions of the self (that is self-valorization, self-verification, and self-recognition), which also aid in the adaptation of the self, but have their limitations, since they do not lead, for example, to changing ineffective behavior (por. Kitayama, Markus, Matsumoto & Norasakkunkit, 1997).

One of the manifestations of self-improvement is readiness for self-improvement, understood as the individual's intention to change the self (that is, to improve one's own characteristics, skills, health, or well-being; cf. Taylor, Neter & Wayment, 1995). There is no instrument available to measure readiness for self-improvement, even though such an instrument could be useful in many aspects of human behavior where the desire to change oneself and adapt to new challenges is important. It can be inferred from the research conducted to date that persons who attempt to imitate people better than themselves (that is, they aspire to improve themselves) are better at coping with illness (Taylor & Lobel, 1989; Buunk & Ybema, 1995) and have better relationships with others (Sedikides & Skowroński, 2000). It has also been shown that persons who show readiness for self-improvement have a lower level of professional burnout and greater life satisfaction (Zawadzka & Szabowska-Walaszczyk, 2011), and a higher level of involvement in work (Zawadzka & Szabowska-Walaszczyk, 2012).

The goal of this article is to present an instrument intended to facilitate research on self-improvement.

This article will describe the genesis of the instrument and four studies in which the internal consistency, content validity, reliability, and theoretical validity of the Scale of Readiness for Self-Improvement (SRSI) were tested. The results of an exploratory factor analysis of the statements contained in the SRSI will be

described (test 1), along with the results of a confirming factor analysis (test 2), and an analysis of the reliability (Cronbach's alpha) of the factors identified. Further studies dealt with the theoretical validity of the SRSI in reference to features of personality (test 3) and life satisfaction (test 4). The respective sections of the present study will provide detailed data concerning the psychometric characteristics of this instrument.

## **MATERIAL AND METHODS**

Four studies were conducted to check the reliability and validity of the SRSI scale. In order to check the structure of the tested construct of readiness for self-improvement the explanatory factor analysis and the confirmatory factor analysis were applied to two separate studies. Then, Cronbach's Alpha was performed to ascertain reliability of the SRSI scale. Next, two other studies were conducted to ascertain SRSI theoretical validity. NEO-FII (Costa, McCrae 1987 adapted by Zawadzki, Strelau, Szczepański, Śliwińska 1998) and life satisfaction scale (Czapieński, Panek 2009) were used to measure theoretical validity of the SRSI scale.

## **THE GENESIS, RELIABILITY AND INTERNAL CONSISTENCY OF THE SRSI**

The SRSI was constructed in reference to theories describing the nature of self-improvement. Self-improvement comprises the desire to be better (Markus, 1977), and so it constitutes a natural component of the process of self-regulation. Individuals aspire to reach the goals marked by the standards of the self, e.g. the ideal self or the ought-to-be self (Higgins, 1987). Every signal of contradiction between the real self ("the way I am") and the standards of the self ("the way I would like to be" or "the way I should be") activates negative emotions and provides a reason to change. Self-improvement involves concentrating on changing the image of the self by improving oneself, aspiring to correction and change of the self (Sedikides & Skowroński, 2000; Sedikides & Strube, 1997). Self-improvement also requires making "upward" comparisons with others, which consists in accepting the patterns of behavior of persons better than oneself (Sedikides & Hepper, 2009). Accordingly, the assumption in creating the SRSI was that readiness for self-improvement is a manifestation of the motivation to self-improvement, and it was defined as the intention to make the effort to improve one's own characteristics, skills, health, or well-being (cf. Taylor, Neter & Wayment, 1995; Wojciszke, 2002).

The process of constructing the instrument consisted of two phases. In the first phase, on the basis of the definition of the concept of self-improvement (Taylor, Neter & Wayment, 1995), a list of statements characteristic for readiness for self-improvement was generated. This took place using the technique of the focused group interview (Maison, 2001). The participants in the interview (N=7) created a list of 29 statements containing attitudes and behaviors consistent with

readiness for self-improvement. Next, after the statements had been subjected to a preliminary selection (which involved excluding statements that were repetitive, incomprehensible, or broader in scope than the issues under consideration), they were evaluated by four competent judges. The next step, taking into account their evaluation, was to conduct a Kendall's W analysis, which indicated a satisfactory level of agreement among the judges ( $W=0.72$ ). On this basis the instrument can be assumed to be internally consistent.

### Exploratory factor analysis – test 1

In the second phase, test 1 was conducted, in order to verify the content validity and reliability of the instrument.

The research group consisted of 255 people, with an average age of 18.15 years ( $SD=3.06$ ), including 128 women and 127 men. The subjects answered 14 questions from the SRSI using a 5-point scale, where 1 meant "this doesn't describe me at all", and 5 meant "this definitely describes me."

### Results of test 1

In order to check the structure of the tested construct of readiness for self-improvement, exploratory factor analysis was performed using the method of primary factors (Oblimin rotation). The KMO test measuring sample adequacy indicated that the research sample was adequate ( $KMO=0.88$ ); in other words, the research sample had been properly selected for this analysis. Bartlett's test of sphericity came to  $\chi^2(91) = 1465.49$ ,  $p<0.001$ . Based on the graph and the primary components, a two-factor solution was found to be best for the tested construct of readiness for self-improvement. The primary components of the factors identified were as follows: factor 1 was 5.87, which accounted for 40.89% of the variance in the sample, while factor 2 was 1.41, and accounted for 10.09% of the variance in the sample (total 51.98%). Taking into account the content of these two factors, the first factor was called readiness to improve oneself (RSI), and the second factor was called readiness to improve one's health (RIH). The

Table 1. Exploratory factor analysis: correlation of each statement with the two factors of the SRSI

Statement	RSI	RIH
I really want to improve my characteristics.	0.76	0.41
I actively strive to be better	0.75	0.41
I really want to improve my skills	0.73	0.29
I work hard to realize what I intended to do	0.72	0.37
I have clearly defined goals and work systematically to achieve them.	0.70	0.38
I really want to improve my well-being.	0.67	0.35
I can effectively mobilize myself.	0.67	0.42
Work on my character is important to me.	0.63	0.40
My weaknesses motivate me to do something.	0.63	0.09
When I feel that something is wrong with me, I try to fix it.	0.63	0.22
I imagine the steps I need to take to achieve success.	0.58	0.18
I really want to improve my health.	0.44	0.87
Healthy nutrition is important for me.	0.34	0.81
I often check up on the state of my health.	0.39	0.81

Table 2. Means and standard deviations, along with the Cronbach's alpha coefficients of reliability in tests 1 and 2

Factors	Test 1			Test 2		
	M	SD	Alpha	M	SD	Alpha
Readiness for self-improvement	4.15	0.77	0.89	4.07	0.71	0.87
Radiness to improve one's own health	3.71	1.09	0.79	3.58	1.04	0.76

correlations of the statements associated with the first factor ranged in the interval from 0.58 to 0.76, while the correlations of the statements associated with the second factor fell in the interval from 0.81 to 0.87 (see Table 1), which was satisfactory.

The validity of both subscales of the SRSI was then tested. A Cronbach's alpha analysis was performed to ascertain the validity of both subscales; the result was  $\alpha=0.89$  for RIS and  $\alpha=0.79$  for RIH (see table 2).

As shown in table 2, the mean values for RIS and RIH in the research group were 4.15 (SD=0.77) and 3.71 (SD=1.09). These results indicated that the persons from the research group declared a high readiness to improve themselves (most of the scores were above 4 on the 5-point scale) and average readiness to improve health (most of the scores were above 3.5).

In previous research an association was noted between the motivation to self-improvement and periods in human development (Levinson, Darrow, Klein, Levinson, Mc Kee 1978). The importance of self-improvement increases with age until early adulthood, a period in which persons phase new tasks that involve changing and developing oneself: the assumption of professional and social roles, entering into intimate relationships. Later, in subsequent periods of development, this growth tendency stabilizes. The correlations of the subscales of the SRSI with both age and gender were analyzed. This analysis revealed a significant correlation between the two factors of self-improvement and age: RIS ( $r=0.27$ ,  $p<0.001$ ), RIH ( $r=0.18$ ,  $p<0.01$ ). These results indicate that, as assumed, RIS and RIH increase with age.

### Confirming factor analysis: test 2

The research group for this test consisted of 270 persons, 149 woman and 121 men, with an average age of 18.43 (SD=3.29). The purpose was to check the fit of the two-factor model of RSI identified previously on the basis of the exploratory factor analysis. This confirming factor analysis was performed using the AMOS SPSS program.

The general fit factors in test 2 were as follows:

- the relativized value of  $\chi^2$ , i.e. CMIN/DF, was 3.7 (researchers indicate that this coefficient should fall in the range from 2 to 5 in an acceptable model, cf. Marsh & Hocevar, 1985, and so this result is satisfactory);
- the root mean square error of approximation, RMSEA, was 0.09 (this result is acceptable, since it fulfills the criterion  $RMSEA<1$ , cf. Browne & Cudeck, 1993);

Table 3. Detailed coefficients of the confirmatory analysis: a two-factor model for the SRSI

Statement	RSI	RIH
I can effectively mobilize myself.	0.59	
When I feel that something is wrong with me, I try to fix it.	0.56	
I really want to improve my skills	0.64	
My weaknesses motivate me to do something.	0.51	
I imagine the steps I need to take to achieve success.	0.57	
I have clearly defined goals and work systematically to achieve them.	0.59	
I work hard to realize what I intended to do.	0.66	
Work on my character is important to me.	0.66	
I really want to improve my characteristics.	0.75	
I actively strive to be better.	0.71	
I really want to improve my well-being.	0.64	
Healthy nutrition is important for me.		0.69
I often check up on the state of my health.		0.87
I often check up on the state of my health.		0.58

- the root mean variance, RMR, was 0.08 (an acceptable result, since the rules are similar to those governing the interpretation of the RMSEA coefficient);
- the normed fit index, NFI, was 0.81 (i.e. close to the benchmark of 0.09, and thus satisfactory).

The next group of indices essential in determining the fit of the model to the sample were the factor loads for each of the statements (table 3).

The values of these parameters for each of the statements ranged from 0.51 to 0.87. An analysis showed that the confirmation analysis generally supported the tendencies identified in the exploratory factor analysis.

Next, a Cronbach’s alpha analysis of validity was conducted, which indicated that both factors were valid ( $\alpha$  RSI=0.87, and  $\alpha$  RIH=0.76; cf. table 2). Thus, on the basis of the two-factor analyses, it can be assumed that the SRSI is internally consistent (i.e. content consistent) and reliable.

### Theoretical validity of the SRSI: test 3

in order to test the theoretical validity of the SRSI, a third test was performed, in which the NEO-FFI personality questionnaire (McCrae & Costa, 1987) was used to measure validity. In previous research on self-improvement (where the subjects marked on the questionnaire the features of their personalities in the past, the present, and the future), it turned out that changes of personality affected Extraversion, Agreeability, Neurotism, and Openness (Fleeson & Heckhausen, 1997). In yet other research, persons motivated by self-improvement were observed to use standards of upward comparisons, and accordingly search for persons better than themselves, which may imply that openness to change accompanies the desire for self-improvement (cf. Sedikides & Hepper, 2009). It has also been shown that personal development (one of the measures of well-being on Ryff’s PWB scale, understood as the importance of one’s own on-going development for a given person) correlates positively with Openness and Extraversion (Schmutte & Ryff, 1997). The connections between the features of personality and readiness for self-improvement are also indirectly indicated by

research on self-realization. The qualitative research carried out by Maslow (2009) indicates that self-realizing persons are open to novelty, and have a feeling of community, qualitatively good relations with others, and a task-oriented approach to reality.

Based on these conclusions from previous research, it can be assumed that RSI in the present study will be positively associated with Extraversion, Openness, and Conscientiousness.

The research group consisted of 109 students, 60 women and 49 men, with an average age of 24.23 years ( $SD=2.59$ ). In this test the SRSI was used in conjunction with the NEO-FFI (McCrae & Costa, 1987, as adapted by Zawadzki, Strelau, Szczepaniak & Śliwińska, 1998). The NEO-FFI uses 60 statements to measure five personality features: Extraversion, Neurotism, Conscientiousness, Agreeability, and Openness. The subjects mark their answers on a five-point scale, from 1 "I definitely do not agree" to 5 "I definitely agree." The means for each of the personality features in the research group were as follows:

- Extraversion:  $M=41.52$  ( $SD=7.39$ );
- Neurotism:  $M=35.12$  ( $SD=8.6$ );
- Conscientiousness:  $M=43.65$  ( $SD=7.65$ );
- Agreeability:  $M=41.37$  ( $SD=5.77$ );
- Openness:  $M=39.54$  ( $SD=6.00$ ).

The Cronbach's alpha analysis of validity in the research group indicated that both sub-scales of the SRSI were highly valid: for RSI  $\alpha=0.88$ , and for RIH  $\alpha=0.86$ .

An r-Pearson analysis of correlation was also performed between the SRSI and the Big Five personality factors. Significant correlations were found between RSI and each of the five personality factors:

- Extraversion ( $r=0.46$ ,  $p<0.01$ );
- Openness ( $r=0.25$ ,  $p=0.009$ );
- Conscientiousness ( $r=0.58$ ,  $p<0.001$ );
- Agreeability ( $r=0.21$ ,  $p<0.03$ );
- Neurotism ( $r=-0.32$ ,  $p=0.001$ ).

That means that the higher the level of Extraversion, Openness, Conscientiousness, and Agreeability, and the lower the level of Neurotism, the greater the readiness for self-improvement. On the other hand, readiness to improve one's own health correlated positively with Agreeability ( $r=0.28$ ,  $p=0.003$ ). This means that the more agreeable the person, the greater the readiness to improve one's own health. These results are consistent with the research assumptions, which supports the theoretical validity of the SRSI.

#### **Test 4**

In order to further test the theoretical validity of the SRSI, a fourth test was performed. Readiness For Self-improvement in this instrument is defined as the intention to improve one's own characteristics, skills, health, or well-being (cf. Taylor, Neter & Wayment, 1995; see also Wojciszke, 2002). In humanistic psy-

chology attention is paid to self-realization: that is, growth, maturity, and development as a road to well-being (Maslow, 2009; Rogers, 1951/1991). In a similar way, it can be inferred from research based on the theory of self-determination (Ryan & Deci, 2000; cf. also Kasser & Ryan, 1993, 1996) that aspirations associated with personal development and health, i.e. self-improvement, are associated with well-being. Based on these concepts and research conclusions it could be assumed that measurement of life satisfaction as a measure of well-being would be a good instrument to test the theoretical validity of the SRSI. The results of research conducted to date have indicated that readiness for self-improvement is associated with life satisfaction (cf. Zawadzka & Szabowska-Walaszczyk, 2011). It was assumed, then, that both RSI and RIH will be positively associated with life-satisfaction.

The research group consisted of 265 people, 170 woman and 85 men, with an average age of 38.83 years (SD=10.63). The persons in the research group had technical, economic, legal, or humanistic education; 29% of these people had a secondary education, while the remaining 71% had a higher education.

The SRSI was used in conjunction with Czapinski and Panek's Life Satisfaction Scale (2009).

The life satisfaction score was composed of scores for particular spheres of satisfaction. The subjects answered questions regarding satisfaction with 19 areas of life on a scale from 1 do 6, where "1" meant "very unsatisfied" and "6" meant "very satisfied". The mean total score for life satisfaction in the research group was 4.24 (SD=0.59). A Cronbach's alpha analysis indicated that the scale of overall life satisfaction had good validity ( $\alpha=0.82$ ).

The mean scores from the sub-scales of the SRSI in the research group were as follows:

- RSI: M=3.68 (SD=0.59);
- RIH: M=3.51 (SD=0.67).

The validity of each of the scales was  $\alpha=0.86$  for RSI and  $\alpha=0.65$  for RIH.

An r-Pearson analysis showed a positive correlation between overall life satisfaction and RSI ( $r=0.13$ ,  $p<0.05$ ) and RIH ( $r=0.11$ ,  $p=0.07$ , tendency).

Regression analysis was then conducted using the introduction method, where the independent variables were RSI and RIH, and the dependent variable was the level of overall life satisfaction. The tested model proved to be significant ( $R=0.20$ ,  $R^2=0.04$ ,  $F(2,252)=5.49$ ,  $p<0.005$ ).

Table 4. Detailed coefficients of the regression analysis (dependent variable: overall life satisfaction)

Variables	Standardized coefficients	T
	Beta	
Readiness for self improvement (RSI)	0.19	2.73**
Readiness to improve one's health (RIH)	0.03	0.40

$R=0.20$ ,  $R^2=0.04$ ,  $F(2,252)=5.49$ ,  $p<0.005$   
level of significance: \*\* $p<0.01$



Table 5. Correlations between domain-specific satisfaction, readiness for self-improvement, and readiness to improve one's health

Domain-specific life satisfaction resulting from:	RSI	RIH
relations with closest family	0.09	0.16**
relations with friends (group of friends)	0.05	0.17**
one's own achievements	0.17**	0.12
living conditions	0.21***	0.17**
level of goods and services available	0.19**	0.15*
future prospects	0.29***	0.10
one's own education	0.24***	0.17**
leisure time	0.17**	0.14*
level of safety in the residence	0.19**	0.03

level of significance: \*p<0.05, \*\*p<0.01, \*\*\*p<0.001

A significant beta coefficient was observed in the case of RSI ( $\beta=0.19$ ,  $t=2.73$ ,  $p=0.007$ ), which means that this variable explained life satisfaction. The greater the readiness for self-improvement, the greater the overall life satisfaction.

An r-Pearson analysis was also performed for correlation between specific areas of satisfaction and RSI or RIH. A significant positive correlation was found (see table 5) between RSI and satisfaction with:

- life achievements;
- living conditions;
- availability of goods and services;
- future prospects;
- education;
- free time.

RIH correlated positively with:

- relations with close family;
- relations with friends;
- living conditions;
- availability of goods and services;
- education;
- free time.

These correlations are not strong. However, the content of the domains of satisfaction discussed here indicate that the SRSI was theoretically valid: the greater RSI, the more the person was satisfied with their life achievements, future prospects, living conditions, availability of goods and services, education, and free time (see table 5). RIH correlated positively with satisfaction with relations with family and friends.

To sum up, the assumptions made in the fourth test regarding the connection between RSI and life satisfaction were confirmed.

## DISCUSSION

The goal of this study was to propose a valid and consistent instrument to test readiness for self-improvement. Four tests were performed on separate

groups, the results of which indicated that the SRSI is an internally consistent and valid test (tests 1 and 2), with theoretical validity (tests 3 and 4). Thus the intended goal was reached. It also turned out that RSI is associated with features of personality (positively with Extraversion, Openness, Conscientiousness, and Agreeability, and negatively with Neurotism), overall life satisfaction, and age. This result expands on the conclusions from previous research on the correlates of self-improvement, which indicated that RSI correlates positively with a preference for the value of achievement and life satisfaction, and negatively with self-evaluation (Zawadzka & Szabowska-Walaszczyk, 2011).

Since the days of the ancient philosophers, one of the key topics of discussion and analysis has been the way to achieve happiness or well-being in life (Pačhal-ska I Ziółkowska 2011). Philosophers searching for the specifically human factors in the human being often point to self-improvement; Pascal, for example, argued that people are fragile thinking beings and must try to shape their own lives, while Jaspers stated that we become who we are thanks to ourselves (Tatarkiewicz, 1983).

According to the school of eudaemonism, well-being results from the full functioning of the individual: self-realization and a sense of the purpose and meaning of life (Maslow, 1970/2009; Ryan & Deci, 2000; Seligman, 2002). RSI is an important feature of research on the correlates of well-being conducted in the spirit of eudaemonism, since it concerns an attitude, which, if it becomes readily available in different situations in the mind of the individual, will lead in the direction of the full development of the person (that is, self-realization). In order to achieve their goal, persons concentrated on self-improvement are able to defer gratification (Sedikides & Hepper, 2009). That is why RSI can be important in both health and illness.

In health, self-improvement consists in having the intention to change oneself, to develop one's characteristics or skills, the effect of which can be to benefit from one's own possibilities and to adapt more effectively to reality and the demands of life (cf. Kitayama et al., 1997). The material symbols of success lose importance for such persons; they undertake self-improvement after a defeat (that is, their preference for luxury automobiles and clothing is distinctly less). In other words, it is self-improvement that raises self-esteem in the context of defeat (Zawadzka, 2008). The school of transformational leadership, which has attracted a great deal of interest and has been intensively developed in recent years, points to self-improvement as a condition for the effectiveness of the leader in an organization and other social contexts (Covey, 2008).

Self-improvement accompanies the struggle against illness, and accordingly the aspiration to recover health. Thanks to self-improvement, persons who are ill return to health; for example, stroke patients, cancer patients, persons with psychosomatic illnesses or heart disease, or persons on a diet try to equal the models of behavior and attitudes presented by persons who have overcome these illnesses (Helgeson & Taylor, 1993; Taylor & Lobel, 1989; Buunk & Ybema, 1995).

## CONCLUSIONS

The SRSI presented here, which identifies the individual's attitude towards self-improvement, can be a useful instrument in the context of anticipating changes in the behavior of people in health and illness. Moreover, this scale can make it possible to make a preliminary evaluation of one of the individual's personal resources, which is readiness for self-improvement.

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