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## CONSTRUCTION AND PSYCHOMETRIC EVALUATION OF THE EGO-IDENTITY STATUSES QUESTIONNAIRE *SID48*

**ABSTRACT:** The developmental-structural model of the status of self-identity is an empirically based elaboration of Erikson's theory of psychosocial personality development. This psychoanalytical model has inspired many studies and the development of measuring instruments, which, however, have unsatisfactory psychometric characteristics. Therefore, for the purposes of the research, the *SID48* questionnaire, which measures individual differences in four self-identity statuses, was constructed and later tested on national samples. Based on theoretical assumptions and concepts, we first created an initial sample of 200 items, and then a 60-item test version of the questionnaire, with five-level scales of graded answer categories attached. The experimental version of the questionnaire consists of four scales with 15 items each, which should measure the individual differences in the statuses of achieved and assumed self-identity, confusion, and moratorium with sufficient reliability and validity. The questionnaire was applied together with other instruments of the same type on a convenient sample of 458 respondents of both genders (60% female) and aged 19 to 33 years. The data generated in this way were analyzed on two occasions in order to check the internal psychometric characteristics. The result is the *SID48* questionnaire with four scales containing 12 items each. The *SID48* questionnaire has very good to excellent representativeness, homogeneity, reliability, and factorial validity.

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## 1. Introduction

It is a well-known fact that psychology as a discipline, as well as academia in general, has an ambivalent attitude towards psychoanalysis (Bateman & Holmes, 1995; Bornstein, 2007; Ignjatović, Vasić, Kosanović, Mitrović and Momirović, 1995; Westen & Gabbard, 1999). On the one hand, psychoanalytic concepts and assumptions are denied any scientific merit, based on more or less dubious philosophical and scientific reasons. On the other hand, these concepts and assumptions have been given a dogmatic status and their creator raised to the pedestal of divinity. It would be too simple to state that the truth lies somewhere in between such extreme views. A more scientifically fruitful approach to psychoanalytic concepts and assumptions would be the following.

First, choosing one side or the other overlooks the fact that there are psychoanalysts who advocate a scientific, empirical, and quantitative approach and that a significant number of research findings support concepts and assumptions from psychoanalytic theories (Bornstein, 2007; Fisher & Greenberg, 1996; Westen & Gabbard, 1999). Second, these extreme viewpoints refer, first of all, to the original psychoanalytic theory developed by Sigmund Freud and his collaborators until 1923, when a study on the relationship between the Id and the Ego was published (Freud, 1961). Since then, further theoretical developments within psychoanalysis began, which, no matter how consistent continuations of the original theory, certainly deserve to be considered as relatively separate psychoanalytic theories (Palombo, Bendiczen, & Koch, 2009; Vasić, 2021). Those psychoanalytic theories were based not only on clinical experience but also on the results of empirical research (Vasić, 2021).

One of these psychoanalytical theories is Erikson's theory (1950, 1956, 1968), which is as a rule presented as a textbook example of a theory of lifelong development. But it is actually a theory of the development of the Self through eight stages in the total life cycle, which

seeks to describe and explain the interactions of the biopsychosocial factors of that development. The key concept of this theory is self-identity, which refers to the persistent experience of self-identity, as well as the exchange of this identity with significant others throughout the life cycle (Erikson, 1956). This sameness and continuity are made from the conscious feeling of personal identity, the unconscious striving for personal stability that rests on libidinal urges, as a condition of life that cannot be lived without, the quiet and persistent work of self-synthesis and solidarity with group values (Erikson, 1968). A critical moment in the development of self-identity is the developmental crisis that takes place during adolescence. This is precisely why Erikson called the fifth stage in the psychosocial development of the personality the stage of relatively consistent shaping of the self-identity as opposed to the diffusion/confusion of the self. The developmental crisis in youth refers to the transition from childhood to adulthood and is resolved by dedication to life goals and roles in a certain community. Human communities differ in the duration, intensity of pressures, and ritualisations/institutionalizations of this development crisis, i.e., in the psychosocial moratorium during which young people are allowed to explore, try, experience, and decide on love and work in their lives.

Self-identity has likely been the focus of researchers (some of them cited here) more than any psychoanalytic concept. This was certainly due to the social and historical relevance of the issues this theory deals with, as well as the unusual sympathy of academic psychology towards Erikson and his theories (Douvan, 1997; Palombo et al., 2009). This is mostly due to the work of James Marcia, who, based on research findings for his doctoral dissertation, formulated a model of the development and structure of self-identity in youth (Kroger & Marcia, 2021; Marcia, 1964, 1966, 1967). In that model, based on the two key drivers of self-identity development, exploration, and commitment, the outcomes of the developmental crisis of youth along the psychosocial continuum are described and explained in more detail (Kroger & Marcia, 2011, 2021). Those developmental outcomes are relatively independent statuses in the individual functioning of young people, ranging from a shaped or achieved self-identity to its confusion/diffusion (Table 1).

**Table 1** – Self-identity statuses, in terms of Exploration and Commitment (Cf. Kroger & Marcia, 2021, p. 219).

Statuses	Exploration (crisis)	Commitment
Achieved self-identity ( <i>OI</i> )	+	+
Moratorium ( <i>MI</i> )	Current	Vague
Assumed self-identity ( <i>PI</i> )	-	+
Identity Confusion/Diffusion ( <i>KI</i> )*	-/+	-

**Note:** (+) – existent, clear, observable; (-) – non-existent, vague, unobservable; \* - Erikson first used the term *diffusion*, and then later, unaccountably, started using the term *confusion*. Marcia uses *diffusion* consistently. In this study we will be using both terms.

The four statuses of self-identity in the developmental-structural model are defined in terms of whether the developmental crisis (research or exploration) has been overcome or is still in the swing and whether there is or has not yet been achieved a sufficiently clear and stable commitment to values, norms and expected behaviours in the current sociocultural context. Until the psychosocial moratorium, infantile identifications and the compromise formation resulting from the resolution of the Oedipal conflict dominate (latency or infantile moratorium). Therefore, until adolescence, young people do not (yet) experience affective anxiety or cognitive aspiration to stabilize their self-concept, personally and in the network of interpersonal relationships. However, physical and especially sexual maturation and the reawakening of libido, on the one hand, and social pressures towards the adoption of more and more often conflicting roles, on the other hand, arouse in young people insecurity in their self-concept and relationships with others, as well as accompanying affective instability. Those young people who fall behind in the moratorium, burdened with emotional instability and without clear commitments, are said to be in a state of *Identity confusion/diffusion*. Those young people who come out of the moratorium and overcome the crisis by persevering on infantile commitments (the child's self-ideal), remaining attached to other people's, usually parental commitments, find themselves in the status of *Assumed self-identity (foreclosure)*. Young people who are currently experiencing more or less conscious self-questioning and are actively exploring possibilities but have not yet reached a relatively clear and stable commitment, are in a *Moratorium*.

Those young people who have lived through the moratorium and adopted personal, unique commitments, thus outgrowing infantile identifications, reach the status of *Achieved self-identity*.

Research inspired by the developmental-structural model also involved the development of new assessment tools and measuring instruments. It seems, however, that the theoretical-conceptual framework of this model has improved significantly compared to Erikson's descriptions and observations, whereas the self-identity evaluation and measurement procedures have not progressed. While Marcia insists on a (semi)structured interview, other researchers have created questionnaire-type instruments, but their psychometric characteristics are such that their application for research purposes is also questionable (Table 2).

**Table 2** – Selected self-identity questionnaires and their reliability

<b>Instrument Name (Abbreviation)</b>	<b>Source</b>	<b><math>\alpha</math> (or <math>\lambda_3</math>)*</b>
Extended version of the objective measure of ego identity status ( <i>EOMEIS2</i> )**	Adams (1998)	0,61 and 0,64
Identity Styles Inventory ( <i>ISI3</i> )***	Crocetti et al. (2012)	0,64
Functions of Identity Scale ( <i>FIS</i> )****	Crocetti et al. (2012)	0,60
Utrecht-Management of identity commitments scale ( <i>U-MICS</i> )*****	Crocetti et al. (2012)	0,76

Note: \* - reliability coefficient of the internal consistency type \*\* - EOMEIS2 gives several results by means of which respondents are classified into four statuses. Average values for the scales in the domain of profession and ideology are listed here; \*\*\* - There are several national versions of ISI; it measures informative, normative and diffuse-avoidant identity style (Berzonsky, 1989); \*\*\*\* - FIS is intended to measure identity functions named as a sense of structure, consistency and conformity of commitment, orientation towards the future, orientation towards goals and a sense of personal control (Adams & Marshall, 1996; Serafini & Adams, 2002); \*\*\*\*\* - The U-MICS measures three dimensions of identity that are defined as commitment, in-depth exploration and reconsideration of commitment (Crocetti, Schwartz, Fermani, & Meeus, 2010; Meeus, Van de Schoot, Keijsers, Schwartz, & Branje, 2010 ).

The main reason is that those instruments are only partially constructed on the principles of a quantitative, dimensional approach in the study of differences in individual functioning (Vasić, 2019). What is lacking in those instruments is the identification of status (self-identity) with an exclusive class. Such identification consequently reduces measurement or assessment to a primitive and rough, and hence insufficiently precise form of classification. While such a measurement model can be considered inherent in (semi)projective and (semi)structured techniques, this is certainly not the case with questionnaire-type instruments. Moreover, the development of the questionnaire went hand in hand with the development of the multidimensional dimensional approach and its inherent, more complex measurement models, such as, for example, the factor-analytical model.

Another problem is the very concept of status. Every finding and opinion in psychological practice and research is based on the results of measurement and assessment in order to determine the relative position (status) of an individual or a group of individuals. At the same time, that position or status is at least doubly relative – in the relationship of one individual to other individuals (inter-individual differences) during a certain period and in the relationships between repeated measurements of one individual in different time periods (intraindividual differences; Vasić, 2019, 2021). Therefore, there is no reason why the same should not be true when it comes to self-identity statuses.

Another important tenet of the psychology of individual differences (not explicitly articulated as a starting point in the development of the aforementioned instruments) refers to the difference between the manifest, in the sense of observable or measurable individual differences, and the latent, i.e., only indirectly accessible generators of that manifest diversity. Applying appropriate multivariate mathematical-statistical models from that cacophony of manifest differences in feelings, opinions, and behaviours can isolate and define latent dimensions behind different outcomes in the development of self-identity.

A typical example of an insufficiently or inadequately grounded instrument is probably the most widely used questionnaire OMEIS (Adams, 1998). Considerable efforts were made to clarify and elaborate its theoretical background. The fact is that this questionnaire additionally

encouraged research into the status of self-identity according to Marcia's model. But that instrument has such psychometric characteristics that its application, at least on samples from the domestic population, is more than questionable (Tovarović, 2014). The most important reason for this is that consistent interpretations of the concepts and assumptions of Marcia's model in the spirit of the quantitative, dimensional approach to the psychology of individual differences were missing. Marcia himself is responsible for this, insisting on a categorical approach, although he too makes modest strides by claiming, for instance, that self-identity statuses are more fuzzy than exclusive categories – whatever that means. Therefore, an attempt was made to create and test a new questionnaire-type instrument intended for measuring self-identity status with comparatively better metric characteristics on samples from the domestic population for research purposes. The aim of this report is to present the basic results of checking the representativeness, homogeneity, reliability, and factorial validity of the new questionnaire. Additionally, as a control check of the theoretical foundation of the questionnaire, the distribution of the dimensions of the self-identity status in the structure of the psychosocial continuum of developmental outcomes in youth was analysed.

## **2. Methodology**

### **2.1. Sample of Participants**

The research was conducted on a convenient sample of respondents from the student population, which was created according to the avalanche principle. The sample consisted of 458 respondents aged 19 to 33, of which 60% were female and 40% male. With regard to the age of the respondents, it can be stated that these are young people who are in their early adolescence or emerging adulthood (Arnett, 2000), when, by assumption, a relatively stable structure of the psychosocial continuum could be expected. The application of the questionnaire was carried out in groups, in the institutions where the respondents attend classes. During the research, no events were registered that would question the validity of the data.

## 2.2. *SID48* Questionnaire Construction

The experimental version of the questionnaire for measuring the status of self-identity was made from an initial mass of 200 items. That initial collection was produced by 20 master's students in Business Psychology at the Faculty of Law and Business Studies Dr. Lazar Vrkiatić in Novi Sad, after a detailed introduction to Marcia's developmental-structural model. From that initial mass, a test version of the questionnaire was created with 60 items, which are distributed in four scales for measuring the status of self-identity, while the scales in the questionnaire go down, in order, from achieved self-identity through moratorium and assumed self-identity to self-identity confusion/diffusion. This reduction was carried out on the basis of the theoretical and content validity of each item - that the item corresponds to the notion of appropriate status, that it reflects one of the key drivers of self-identity development (crisis/exploration or commitment), and the attitude towards oneself and others, profession, and ideology. At the beginning of the questionnaire, there is an introductory instruction on the purpose of the instrument and how to answer. Items were assigned uniform five-point response categories ranging from strongly disagree to strongly agree with each statement. Respondents' answers were coded so that a greater degree of agreement indicates a greater degree of expressiveness of the measured property. A trial version of the questionnaire for measuring the status of self-identity with 60 items was applied together with some other instruments of the same type but with different measurement items.

## 2.3. Data Analysis

The scores on the items were first normalized (Tuckey, 1977), and then standardized so that the values of the first two moments in the distribution of those scores are equal to zero and one. In the analysis of internal metric characteristics of items and scales, the Syntax algorithm (Knežević and Momirović, 1996) was applied, which emits a large number of assessments, including representativeness, homogeneity, reliability, and validity (Momirović, Wolf and Popović, 1999). An exploratory factor analysis was also performed to check the factorial validity of the



new questionnaire. Although the existence of a relatively solid theoretical background may require the application of confirmatory factor analysis (from top to bottom), the fact is that this is a new sample of variables, which first requires exploratory factor analysis (from bottom to top). Principal component analysis (Hotelling, 1933) was used in the extraction, and the unit criterion (Guttman, 1954; Kaiser, 1961), the slope/plain criterion (Cattell, 1966), and its statistical elaboration known as parallel analysis were used to determine the number of significant dimensions (Horn, 1965; O'Connor, 2000). Given that in the analysis of the structure of the measurement space of the questionnaire, at least four factors with assumed interrelationships are expected, in their rotation, the Promax oblique solution was applied (Hendrickson & White, 1964). By means of multidimensional scaling (Davison & Sireci, 2000; Rencher & Christensen, 2012) an additional attempt was made to check the position of the self-identity status along the continuum of psychosocial development. Although a lot of effort has been made in perfecting this analytical procedure, the fact is that it is primarily a procedure of a graphic nature (Rencher & Christensen, 2012) and in that sense, it is also applied here - as an additional pictorial examination of the relationship between self-identity statuses.

### **3. Results**

Given that the experimental version of the new questionnaire for measuring self-identity status contains 60 items and its final form another 48 items, the total amount of obtained results is too extensive for a report of limited scope. Therefore, a selection of sufficiently informative results was made, on the basis of which one can conclude with satisfactory certainty about the basic internal metric characteristics of this instrument. The first part presents the results that show some internal metric characteristics of the scales from the new questionnaire. In the second part, the results of the factor validity check of the questionnaire are presented, and in the third part, the results that show the relationships between the measures of self-identity status emitted by that instrument.

### 3.1. Metric Characteristic of Scales

Table 3 provides estimates of some metric characteristics of the 15-item scales from the experimental version of the questionnaire. Table 4 shows the same assessments, but now reduced scales with 12 items each from the final version of the questionnaire named SID48 (S – Status; I – 1st person singular; D – Dimension; 48 - number of items in the questionnaire).

**Table 3** – Some internal metric characteristics of experimental 15-item scales

Scales	<i>m</i>	$\psi$	$\alpha$ (or $\lambda_3$ )	$\beta$	$h_1$	$h_2$
Achieved self-identity ( <i>OI</i> )	15	,92	,79	,77	,20	,74
Moratorium ( <i>MI</i> )	15	,87	,78	,78	,19	,67
Assumed self-identity ( <i>PI</i> )	15	,94	,84	,85	,26	,71
Confusion/Diffusion ( <i>KI</i> )	15	,96	,86	,87	,30	,73

**Note:** *m* – number of items in the scales;  $\psi$  – representativeness assessed through a measure of sampling adequacy of variables;  $\alpha$  - Gutman - Cronbach reliability assessment of internal consistency type;  $\beta$  – reliability of the first principal component of the scales;  $h_1$  – homogeneity as average intercorrelation of items within scales;  $h_2$  – Momirović homogeneity coefficient.

Three of the four scales from the trial version of the questionnaire are excellent and one has very good representativeness. According to the assessments of two types of reliability, which are mutually agreed upon, the scales of the status of assumed self-identity and confusion stand out as excellent. Somewhat lower, but with acceptable reliability for research purposes, are the scales of achieved self-identity and moratorium. It is similar when it comes to the exposed assessments of the homogeneity of the scales. In order to achieve even better metric characteristics, but also to make the questionnaire more economical to use, the contributions of individual items were considered, and an additional reduction of the scales was carried out.

**Table 4** – Some internal metric characteristics of reduced 12-item scales.

Scales	<i>m</i>	$\psi$	$\alpha$ (or $\lambda_3$ )	$\beta$	$h_1$	$h_2$
Achieved self-identity ( <i>OI</i> )	12	,93	,82	,83	,28	,80
Moratorium ( <i>MI</i> )	12	,86	,77	,77	,22	,71
Assumed self-identity ( <i>PI</i> )	12	,93	,83	,84	,30	,78
Confusion/diffusion ( <i>KI</i> )	12	,96	,87	,87	,35	,85

NOTE: *m* – number of items in the scales;  $\psi$  – representativeness assessed through a measure of sampling adequacy of variables;  $\alpha$  - Gutman - Cronbach reliability assessment of internal consistency type;  $\beta$  – reliability of the first principal component of the scales;  $h_1$  – homogeneity as average intercorrelation of items within scales;  $h_2$  – Momirović homogeneity coefficient.

When it comes to the representativeness of the reduced scales, the situation is mostly the same with minor changes in the second decimal place. The reliability of the reduced scale of the status of achieved self-identity has increased significantly, while the reliability of the other scales has mostly remained the same. The greatest improvement by reducing the scales was achieved when it comes to assessments of their homogeneity. Based on this, it can be concluded that the scales of the SID48 questionnaire have very good to excellent homogeneity, representativeness, and reliability.

### 3.2. Factor Validity

The criteria for determining the number of significant factors are relatively inconsistent. The unity criterion indicated 11 significant components, which is almost three times more than the expected, theoretical number. On the other hand, the slope/plain criterion and the parallel analysis unanimously indicate seven significant dimensions, which is almost twice the expected number. Therefore, due to the inconsistency of the criteria, a strategy was applied that represents the imitation of the so-called graphic rotation. Seven to four principal components were successively extracted (thus four extractions) and in each case, Promax-rotation was applied (thus four rotations). In considering the obtained factorial

solutions, the assembly matrices and intercorrelation of Promax factors were analysed. The seven-factor solution contains one uninterpretable factor that saturates four items, each of which indicates one self-identity status. Two pairs of factors from this solution were created by separating the items that should indicate a moratorium, that is, achieved self-identity (factor fission), while the remaining two factors are the expected dimensions of the assumed status of self-identity and confusion/diffusion. The six- and five-factor solutions bring about a successive fusion of the fragmented factors of achieved self-identity and moratorium (factor fusion) in order to finally stabilize that structure in a four-factor solution. That solution, which corresponds to the theoretical expectation, is briefly presented in the excerpts, together with the structures of the first main components of the four scales of the self-identity status, as shown in tables 5-8.

**Table 5** – Extract from the assembly matrix of the first Promax factor and the structure of the first principal component of the scale

Items	PF1	1GK
46. Rarely takes part in organizing get-togethers with friends	,73	,49
48. Finds thinking about the future tiring.	,38	,65
49. Often has no idea what to do in his/her free time.	,41	,68
51. Despite dissatisfaction with school or job, he/she does not try to change it.	,59	,72
52. Emotional bonds with others are superficial and transitory.	,36	,63
53. Disinterested in discussions about the future; does not participate in them.	,71	,53
54. Often wonders why he/she is here.	,38	,72
55. Has no close friends, just likes spending time with people.	,63	,53
56. Feels that social changes and developments are like a bad movie.	,46	,54
57. Unsure what he/she wants out of life in every aspect.	,40	75
58. Does not consider marriage or relationships because he/she does not see their purpose.	,42	,62
60. Thinks that he/she has not found him/herself yet but does not give it any thought.	,35	,74

Note: The item no. refers to the initial 60-item version; *1PF* – 1st *Promax*-factor; *1GK* – Structure of the first principal component of the final 12-item scale.

The first Promax factor significantly saturated all items that were conceived as indications of self-identity confusion. Also, all these items have significant projections on their first main measurement item according to the Hotelling model. Young people who have elevated results on this dimension manifest aimlessness, apathy, low-quality interpersonal relationships, and unstructured free time. All this clearly speaks of the absence of exploration and commitment, and this dimension will be defined as such – as the dimension of individual differences in the status of *self-identity confusion*.

**Table 6** – Extract from the assembly matrix of the second Promax factor and the structure of the first principal component of the scale

Items	2PF	1GK
1. Has several best friends.	,07	,35
2. Spends time doing and learning things he/she is interested in.	,60	,51
3. Has a clear vision of his/her future.	,75	,75
4. Has close and stable relationships with others.	,37	,65
6. Knows what he/she wants to accomplish in life.	,66	,72
7. Able to establish and maintain a stable emotional bond.	,49	,63
9. Knows what is most important for him/her.	,44	,66
10. Chooses friends based on certain values.	,46	,36
12. Only he/she is responsible for his/her actions.	,19	,51
13. Thinks he/she is capable of choosing the right partner.	,66	,66
14. Has one or more hobbies and engages in them regularly.	,60	,34
15. Has clearly defined values and goals.	,82	,75

Note: The item no. refers to the initial 60-item version; 2PF – 2nd Promax-factor; 1GK – Structure of the first principal component of the final 12-item scale.

The second Promax factor significantly saturated all the items from the achieved self-identity scale except for one. In fact, that item was not significantly saturated with any factor from the four-factor solution. However, as can be seen, that item has a significant correlation coefficient with the first main component of that scale, and for that reason it was retained in the final version of the questionnaire. Respondents with high scores on this dimension clearly demonstrate that they have overcome the crisis (research) and have achieved the commitments they strive to achieve. Obviously, this is a dimension that sums up individual differences in the status of *achieved self-identity*.

**Table 7** – Extract from the assembly matrix of the third Promax factor and the structure of the first principal component of the scale

Items	3PF	1GK
31. Understands male-female relationships according to family attitudes	,50	,52
32. Proud to continue family tradition.	,61	,69
33. He/she will be better off the less he/she thinks and the more he/she does as he/she is expected to.	,52	,57
34. Generally agrees with opinions and attitudes of his/her peers.	,50	,49
36. Traditional values are very important to him/her.	,66	,62
38. Brought up to consider that going to church is very important.	,69	,66
39. Highly values parents' opinion when making decisions.	,60	,63
40. Feels the need to fulfil parents' expectations because they invested a lot in him/her.	,56	,61
41. Family customs and traditions have always been and will be very important for him/her.	,80	,79
42. Always tries to behave as expected of him/her.	,68	,66
43. Would always choose a good person as a partner.	,48	,46
44. Thinks that children and young people need authority figures and strict discipline.	,44	,42

Note: The item no. refers to the initial 60-item version; 3PF – 3rd Promax-factor; 1GK – Structure of the first principal component of the final 12-item scale.

The third Promax factor significantly saturates all items that were created with the intention of indicating the status of the assumed self-identity. Such a pregnant structure is also noticeable when it comes to the first main component of the corresponding scale. Respondents with elevated results on this dimension remain imbued with early, infantile identifications, which is reflected in self-concepts and transposed to interpersonal relationships and professional and ideological commitments. Therefore, beyond any doubt, this dimension can be defined as the dimension of individual differences in the status of *assumed self-identity*.

**Table 8** – Extract from the assembly matrix of the fourth Promax factor and the structure of the first principal component of the scale

Items	4PF	1GK
16. Has only a vague idea of what he/she wants in a life partner.	,73	,57
17. Has various hobbies but cannot choose a favourite one.	,38	,53
18. Thinks he/she knows what he/she would like to do for a living but is still considering.	,41	,64
19. Ponders the role of man/woman in a marriage.	,59	,65
22. Has many friends but cannot identify his/her best friend.	,36	,59
23. Likes to read a lot but cannot identify a favourite author or genre.	,71	,40
24. Open to different worldviews and hopes to find his/her own someday.	,38	,46
25. Has not found his/her soulmate yet but has some ideas.	,63	,48
26. Has not identified his/her political beliefs yet.	,46	,41
27. There are many jobs he/she could do but cannot say which is the best.	,40	,60
28. Has not discovered what friendship means to him/her yet.	,42	,60
30. Life is a grand and unpredictable quest for self.	,35	,43

Note: The item no. refers to the initial 60-item version; 4PF – 4th *Promax*-factor; 1GK – Structure of the first principal component of the final 12-item scale.

The fourth Promax factor summarizes all items from the scale intended to measure individual differences in *moratorium*. All these items also have significant and relatively high projections on the first main measurement item of that scale. By content, the items indicate a still present crisis (research), but also still unreached commitments. This is the dimension that corresponds to the fourth element from Marcia's developmental-structural model of self-identity.

### 3.3. Psychosocial Development Continuum Structure

Initially, the developmental-structural model of self-identity assumed that achieved self-identity and moratorium in self-identity development stand closer to each other, on one side of the psychosocial continuum, while assumed self-identity and confusion/diffusion stand close, on the other side of the continuum. Briefly, using status abbreviations, the continuum would look like this: OI - MI - PI - KI. However, in some later research, results were obtained that indicated a different structure. Namely, it turned out that these findings indicate that on one side of the continuum achieved and assumed self-identity are closer to each other, and on the other side of the continuum moratorium and confusion/diffusion – therefore, OI - PI - MI - KI. Without the intention of solving this dilemma, but with the intention of checking the theoretical foundation of the SID48 questionnaire, the structure of the psychosocial continuum is viewed here from three angles: through the intercorrelations of the dimensions in the four-factor solution, based on the dimension structure in the second-order factor space and by looking at the pictorial solution of multidimensional scaling. Table 9 shows the intercorrelations of the four Promax factors and the first principal component that is isolated in the factor space of the second order.

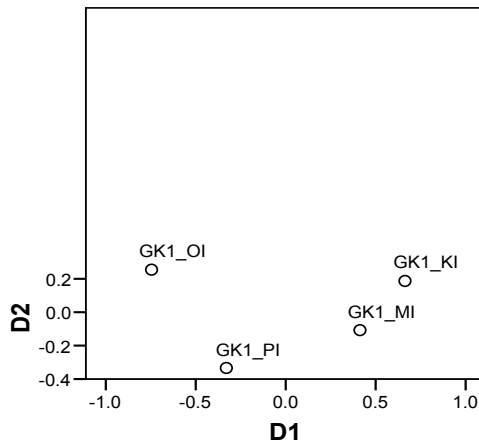


**Table 9** – Intercorrelations of the four Promax factors and the first principal component of the second-order factor space.

Promax factors	PF1	PF2	PF3	GK21
1. Confusion/diffusion ( <i>KI</i> )				,85
2. Achieved self-identity ( <i>OI</i> )	-,52			-,80
3. Assumed self-identity ( <i>PI</i> )	-,10	,20		-,20
4. Moratorium ( <i>MI</i> )	,43	-,29	,12	,68

Achieved and assumed self-identity are negatively correlated with confusion and moratorium. At the same time, the highest negative correlation is between achieved self-identity and confusion/diffusion. On the other hand, the highest positive correlation is between moratorium and self-identity confusion. There are also slightly lower positive correlations between the achieved self-identity on the one hand and the moratorium and assumed self-identity on the other.

The coefficients of the structure of the first main component, which is isolated in the second-factor order, suggest the same, but more clearly. For theoretical reasons, it is clear that this dimension cannot be understood as some kind of general status of self-identity or self-identity itself. That dimension simply represents a concise, quantitative representation of the interrelationship of first-order factors, that is, the status of self-identity. It is a bipolar dimension along which, starting from its negative pole towards the positive pole, the dimensions of achieved, assumed self-identity, moratorium, and confusion/diffusion are lowered. Finally, as can be seen in Figure 1, the same is true of the results of the multidimensional scaling, in which the initial variables were the first principal components of the scales from the SID48 questionnaire.



**Figure 1** – Multidimensional Scaling Results. *GK1* – the first principal component of the SID48 scales; *OI* – achieved self-identity; *PI* – assumed self-identity; *MI* – moratorium; *KI* – confusion/diffusion; *D1* and *D2* – dimensions in a two-dimensional model.

#### 4. Discussion and Concluding Remarks

The developmental-structural model of self-identity status, as an empirically based elaboration of key concepts and assumptions from Erikson's theory of psychosocial personality development, represents an immeasurable contribution to the description and understanding of developmental phenomena and outcomes in youth. However, efforts to further improve that model are based on research that uses, to put it mildly, measuring instruments of dubious psychometric characteristics. Therefore, for the purposes of researching the developmental characteristics of young people from Serbia, a new questionnaire-type instrument was created and psychometrically verified.

Based on the results of the analysis of internal psychometric characteristics, it can be stated that the new SID48 questionnaire contains items and scales that are very good to excellent in terms of homogeneity,

representativeness, reliability, and validity. Exploratory factor analysis in the measurement space of SID48 defined four factors, which summarize individual differences in the statuses of achieved self-identity, assumed self-identity, moratorium, and confusion/diffusion in the development of self-identity. The fact that this part of the results was obtained gradually and from several attempts can be the result of at least two things. The concept of self-identity refers to that aspect of individual functioning that can be understood suprasystemically - that is, superior to the lower located psychological systems that underlie individual functioning. Hence the interdependence of that suprasystem and the lower located psychic systems, and the more difficult path to defining its structure. The second reason is of a methodological nature and is related to the previous one. Namely, a bottom-up strategy (exploratory factor analysis) was applied here, and perhaps, due to the complexity of the measurement subject as well as a clear structural hypothesis, a top-down strategy (confirmatory factor analysis) would be more appropriate. In addition to stricter testing of the developmental-structural model through confirmatory factor analysis, further research should certainly be devoted to and check the concurrent, convergent, and discriminant validity of the SID48 questionnaire.

Checking the location of defined dimensions of self-identity status gave results that provide sufficient grounds for the conclusion that the SID48 questionnaire is theoretically valid. Namely, the order of dimensions of self-identity status, defined by the SID48 questionnaire, is close to the original version of the model and identical to the findings from some later research. The order of dimensions OI - PI - MI - KI is considered expected, when it comes to samples of respondents from collectivist (authoritarian?) communities (Kroger & Marcia, 2021). If it is taken for granted that our community is of a collectivist (authoritarian?) character, then this finding additionally supports the conclusion about the satisfactory theoretical foundation of the new instrument for measuring the status of self-identity.

Thus, the SID48 questionnaire is theoretically solidly grounded, as well as its creation is clearly carried out in the spirit of a quantitative, dimensional approach to the psychology of individual differences. It is

also a questionnaire that contains items and scales with very good to excellent representativeness, homogeneity, reliability, and factorial validity and which is certainly psychometrically better than existing instruments for measuring (status) self-identity.

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