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## BOUNDARIES OF SPIRITUALITY – THE SECOND PERSPECTIVE – SPIRITUAL SPHERE QUESTIONNAIRE\*

Studying the human spiritual sphere presents numerous methodological problems. So far, it has been much easier to study religiousness, which has more unambiguous documented behavioral indicators. However, researchers do make attempts to investigate the spirituality phenomenon empirically. The article describes the process of constructing as well as the parameters of the Spiritual Sphere Questionnaire (KSD), developed as a result of three years of research on women and men ( $N = 1381$ ). The results obtained using KSD reveal the expected positive correlations with the established measures of related phenomena – religiousness, openness to experience, etc., which may testify to the tool's high validity. The method turned out to be a tool stable in time and reliable, with four characterizing clusters: (1) State of Spiritual Sphere, (2) Dynamics of Spiritual Sphere, (3) Aspirituality, and (4) Absence of Relation With a Higher Power. KSD constitutes an effective measurement solution, especially for adults (aged above 30). Combined with the methods functioning in science, it complements the picture of spirituality with a qualitative description.

**Keywords:** spirituality, spirituality measurement, personality, attitude.

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\* The presented research was partially financed by grant no. BW 7411-5-0629-0, given to Katarzyna Skrzypińska, Ph.D.

We wish to thank our students and course seminar participants in 2010-2011 for their help in collecting data.

## INTRODUCTION

In the face of the dynamically changing reality around us, the notion *the spiritual sphere* is very difficult to define. Formerly, it was associated only with searching for *the sacred*, in the religious sense. Today, researchers go beyond previous assumptions and view spirituality much more broadly, as including different forms such as interpersonal relationships, moral values (Oliynichuk & Popielski, 2008), or even aesthetic experiences derived from both the act of creation and the process of art reception (Skrzypińska, 2012a). New empirical directions have crystallized, too, where spirituality is seen as a dimension of personality (Piedmont, 1999, 2001, 2005; MacDonald, 2000), a cognitive schema (McIntosh, 1995; Guthrie, 2001) or clusters of schemas (Ozorak, 1997), or as an attitude to life (Skrzypińska, 2012a), with its particular components identified (e.g., Saucier, 2000; Socha, 2000; Trzebińska, 2008). New empirical methods for investigating spirituality are constructed, reflecting the adopted theoretical perspective. There are many questionnaires in the world for investigating religiousness (cf. Grzymała-Moszczyńska, 2004; Hill, 2005; Hood, Hill, & Spilka, 2009; Jarosz, 2012) – more than there are methods for the exploration of spirituality (Hill, 2005). It was not until the 1990s and after the year 2000 that an increase occurred in the number of methods taking into account this fourth human sphere, beside the physical, psychological, and social spheres.

Generally, the existing questionnaires can be divided into two groups (after Hill, 2005) – measuring spirituality from the aspect of (1) disposition or (2) functioning, respectively. The first group comprises four categories: (1) scales that assess the general level of spirituality (e.g., Hood's *Mysticism Scale* from 1975 or Piedmont's *Spiritual Transcendence Scale* from 1999), (2) scales that assess spiritual commitment (e.g., Pfeifer and Waelty's *Religious Commitment Scale* from 1995), (3) scales that assess spiritual development (e.g., Fowler's *Faith Development Interview Guide* from 1981; Hall and Edward's *Spiritual Assessment Inventory* from 1996), and (4) scales that explore spiritual history (e.g., Maugans' *Spiritual History Scale* from 1996; Hays, Meador, Branch, and George's *Spiritual History Scale* from 2001). The second group comprises as many as eight categories: (1) scales that assess spiritual social participation (e.g., Hilty and Morgan's *Religious Involvement Inventory* from 1985), (2) scales that assess spiritual private practices (e.g., Emavardhan and Tori's *Buddhist Beliefs and Practices Scale* from 1997), (3) scales that assess spiritual support (e.g., Fial, Bjorck, and Gorsuch's *Religious Support Scale* from 2002), (4) scales that assess spiritual coping (Pargament, Koenig, and Perez's *Religious Coping Scale* from

2000), (5) scales that assess spiritual beliefs and values (e.g., Schaler's *Spiritual Belief Scale* from 1996), (6) scales that assess spirituality as a motivating force (e.g., Batson, Schoenrade, and Ventis' *Quest Scale* from 1993), (7) scales that assess spiritual techniques for regulating and reconciling relationships (e.g., Brown's *Tendency to Forgive Measure* from 2003), (8) scales that assess spiritual experiences (e.g., Underwood's *Daily Spiritual Experiences Scale* from 1999). The above overview of methods seems relatively rich compared to the Polish market of psychological research on spirituality, which is rather modest.

Among the methods, there are also many adaptations that can be used indirectly for assessing the spirituality of a Polish sample. "Indirectly" – because they mainly serve to explore relationship with God, which is the central and necessary dimension in the case of religiousness (cf. Krok, 2009b). That is why the authors of this article make an important assumption concerning the relationship between spirituality and religiousness as constructs that overlap but have separate parts, too. Looking for the sacred and relating to God would therefore be the common denominator of the two phenomena, although situations may occur that do not involve building a relationship with a higher power (e.g., treating spirituality as merely a specific, individual way of living or understanding religiousness only in terms of formal ritual – as extrinsic religiousness).<sup>1</sup> Examples of adapted methods, assessing the common part of spirituality and religiousness, can be: 1/ the Polish adaptation of D. Hutsebaut's *Post-Critical Belief Scale*, made by Śliwak and Bartczuk (2011); 2/ the adaptation of S. Huber's *Inventory of Emotions Towards God* made by Zarzycka and Bartczuk (2011); 3/ the adaptation of R. Piedmont's ASPIRES questionnaire, made by Piotrowski, Skrzypińska, and Żemojtel-Piotrowska. Still, as study reports show, nothing will substitute scales created indigenously (cf. Grzymała-Moszczyńska, 2012). A method that may serve as an example is Heszen-Niejodek, and Gruszczyńska (2004) well-known *Self-Description Questionnaire*, which consists of three scales: Religious Attitude, Harmony, and Ethical Susceptibility. This tool is characterized by very good parameters (Cronbach's alpha = .91 in the author's original validation study and up to .94 in others, carried out by various authors; cf. Krok, 2009a; Skrzypińska & Chudzik, 2012). The results of structural equation modeling are equally satisfactory (RMSEA index = .06, and indicators GFI = .915, AGFI = .894, CFI = .937; TLI = .904) (Heszen-Niejodek, unpubli-

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<sup>1</sup> The problem of relationship between the notions of *spirituality* and *religiousness* was separately described in the literature (Zinnbauer & Pargament, 2005; Hood, Hill, & Spilka, 2009; Krok, 2009b; Schnell, 2012; Skrzypińska, 2012b, etc.). The framework of this article makes it possible only to signal this problem.

shed manuscript). However, as can be concluded from the names of its scales, *Self-Description Questionnaire* does not exhaust all of the material and formal aspects of the spirituality phenomenon.

Another interesting proposal for measuring the central element of both religiousness and spirituality is the *Personal Relation to God Scale* created by Jarosz (2003, 2011), based on the assumptions of the relational model (cf. Huber). The theoretical framework of this method is based on four relatively independent bipolar continua of relationship with God: (1) dialogic-monologic, (2) mutual-unilateral, (3) direct-indirect, and (4) actualized-non-actualized. The value of Cronbach's alpha for these scales fluctuates between .79 and .95. Other parameters of the scale also attain satisfactory levels (e.g.,  $RMSEA = .069$ ,  $CFI = .918$ ). The *Personal Relation to God Scale* concerns a particularly personal dimension of spirituality: relationship with the Absolute. It exposes the core of spiritual life, although it cannot describe the entire spiritual sphere.

Another approach to examining the fourth dimension of the human being – beside the physical, social, and psychological dimensions – is the *Scale of Spiritual Transcendence* (STD) (Piotrowski, Skrzypińska, and Żemojtel-Piotrowska, 2013), which was inspired by Piedmont's theory. That theory posits the existence of spirituality as individual internal motivation to find the meaning of existence and to place oneself in a larger, ontological perspective, prompted by the awareness of one's own mortality (Piedmont, 1999, p. 988). The two subscales of this questionnaire – Spiritual Openness (alpha = .8) and Transcendence Proper (alpha = .89) were developed as an answer to Piedmont's proposed ASPIRES questionnaire (2010). Transcendence undoubtedly constitutes an important element of constructing spirituality but is not enough to describe its nature.

It seems that using several scales simultaneously could give a more complete picture of the human spiritual sphere. However, among the methods mentioned there is none with a strictly empirical approach, relying on statements from a larger number of respondents, directly referring to the cognitive representation of the individual's understanding and affective apprehension of the spirituality phenomenon.

#### THE THEORETICAL AND EMPIRICAL BACKGROUND OF THE QUESTIONNAIRE

Why is there a need for constructing new methods for assessing spirituality?  
(1) Spirituality, as the human psychological domain that was underestimated over

the centuries, appears to have a very serious influence on motivational and behavioral processes (Heszen-Niejodek & Gruszczyńska, 2004; Krok, 2009a), planning and the realization of plans (Emmons, 1999), or, finally, on the health and well-being of individuals (Emmons, 1999; Koenig, 2001, 2008; Skrzypińska & Romankiewicz, 2012; Skrzypińska & Chudzik, 2012). Even the old proverb “Faith works miracles” reflects this simple wisdom: apart from the volitional and motivational aspects of motivation to change the actual state, it includes the notion of “faith,” strictly related to the spiritual sphere and also pointing to the inner power that a person possesses.

(2) So far, there has been a disproportion between the size of volumes dedicated to spirituality and those dealing with religiousness. Zwierżdżyński (2010) reveals a peculiar paradox: religiousness is “a subject of monumental masterpieces and encyclopedic publications, where spirituality is only one among thousands of entries associated with religion” (p. 83). It is as if researchers were interested only in the result of the phenomenon without its psychological cause: the individual need to search for the meaning of life and for a goal, as well as the need for transcendence, stemming from the spiritual domain (which, according to Frankl, is the third significant dimension of human functioning, apart from the somatic and the psycho-social dimensions; Frankl, 1978). This is the reason why methods for assessing religiousness were created first: it is much easier to examine it empirically – because of the behavioral criterion, among other things. Still, it is a commonly known fact that primitive peoples built their religions on the basis of beliefs that stemmed from their need to answer elementary existential questions. First, the object or subject of beliefs appeared and then a system of rites was built around it, social hierarchy was constructed, roles and tasks were assigned to every member of the community, including clergymen. Obviously, from the historical (rather than psychological or ontogenetic) point of view, this genesis could be interpreted inversely.

(3) As Grzymała-Moszczyńska (2004) rightly observes – a vast majority of methods used in the psychology of religion were developed in the USA, where they are applied to researching the faithful of Protestant Churches. Uncritical adaptation of such tools and ignoring cultural variables could burden even the best research reports with serious methodological errors.

(4) Many methods for the quantitative assessment of essential components of spirituality function on the research market, but there are no qualitative ones that could verify the qualitative aspect of spirituality – for example, state and dynamics. It is them that, in longitudinal or diagnostic studies, would yield essential information about the motivational mechanisms of respondents/patients.

Yet, as a review of the literature shows, it is not so easy to develop a reliable tool for assessing spirituality. The difficulty of constructing a universal method can be summarized in a few points:

(1) There is no universal definition of spirituality whose operationalization would pose no difficulties (cf. Paloutzian & Park, 2005; Różycka & Skrzypińska, 2011).

(2) There is a multiplicity of theories with different scopes; it often seems as though a given method has been created based on only one theory, which makes it useless in any different theoretical context.

(3) Another elementary methodological difficulty lies in the manner of spirituality assessment: how to examine spirituality as declarative knowledge using the paper-and-pencil method? It is important always to take into consideration the positive bias or wishful thinking on the part of respondents. Moreover, data from clinical monitoring (PET, SPECT) do not provide full information about the essential content of spiritual experiences. They may only indicate some areas associated with the activation of spirituality and the emotions it is accompanied by.

In order to undertake the task of constructing a scale for assessing the spiritual sphere, it is necessary to distinguish between spirituality and religiousness. The proposal presented in this article assumes that spirituality and religiousness are relatively independent phenomena, although they have some common elements (Skrzypińska, 2002; Saucier & Skrzypińska, 2006). The described relationship can be depicted as two sets with a common part, which could be named spiritual religiousness (or religious spirituality). This approach requires working out clear definitions of the two phenomena, so as to avoid methodological misunderstandings. Usually, this process begins from searching for an appropriate theory. However, in accordance with the empirical approach – adopted here – respondents may be asked directly about their opinions concerning a given phenomenon.

The choice of the inductive method of questionnaire construction was dictated by several arguments. Firstly, in such a definitionally difficult situation, an exploratory study helps discover new dimensions of behavior, not taken into account in theoretical models (cf. Zawadzki, 2006). Secondly, a much more complete picture of a given phenomenon related to personality can be obtained (and we do assume spirituality to be a phenomenon of this kind). In this way, the errors of under-representation and over-representation are avoided. Thirdly, as Zawadzki (2006) emphasizes, the problem of vertical classification of features disappears, because the method guarantees searching for main dimensions (source traits). But the most important attribute of the inductive approach is the

possibility of obtaining a concise and at the same time precise description of the effects of empirical exploration. Spirituality approached in psychological terms is a phenomenon so broad and multifaceted that research methodology should be not complicated too much. Naturally – like other methods – this one also has its shortcomings. The lack of theoretical basis can lead to an ambiguous structural solution, considerably burdened with randomness. This problem, however, could be circumvented by repeating several studies and comparing them one with another, testing the level of stability of the structure of indicators. The second way – considered in this article – is the application of others questionnaires in order to assess the validity of the constructed scale.

The main assumption of this article is that spirituality is immanently given to the human being. It is deeply rooted in the biological base of human functioning (cf. Zohar & Marshall, 2001; Bering, 2010). Physically, no particular structure of the brain has ever been demonstrated to be the specific habitat of spirituality. However, researchers' works point to the so-called "God spot" located at the parietal-temporal joint (Zohar & Marshall, 2001), especially activated during prayer, meditation, or simply the priming of the image of God. On the other hand, Bering's discussion (2010) leads to the conclusion about the existence of a "God instinct," which inspires the striving to search for the meaning of action. According to this author, the existential mind is a biologically rooted general explanatory system, making it possible for people to perceive meaning in certain life events. It follows that the "existential domain," beside the physical, social, and biological domains, helps a person to explain the nature of the world and events. Bering, to be sure, is against explaining these phenomena in spiritual terms. A comprehensive polemic on the subject of the biological background of spirituality is widely presented in one of the major textbooks by Hood, Hill, and Spilka (2009), who go as far as to refer to the human as "a religious animal."

The second assumption is based on the understanding of spirituality as a multidimensional construct which includes a complex of experiential, cognitive, emotional, physiological, behavioral, and social elements (cf. Pyysiäinen, 2001; Saucier & Skrzypińska, 2006; Trzebińska, 2008; Skrzypińska, 2012). Its complexity results from centuries of experience of intergenerational transmission and personal reflection based on the process of searching for meaning in life – possible thanks to transgressive human nature (cf. Koziński, 2007).

Arising from the above two, the third assumption defines spirituality as a dimension of personality (Piedmont, 1999; MacDonald, 2000; Skrzypińska, 2005). Thanks to biologically constituted mechanisms, beside the physical and social human domains, the spiritual sphere develops as an answer to the search for the

meaning of existence (cf. Frankl, 1978; Bering, 2010). This understanding of spirituality partially reconciles two threads – genotypical and phenotypical – as contributing to the formation of the human being as a subject. This is because personality takes shape in the process of socialization, in the course of the individual's life, based on inborn temperamental features, and constitutes the groundwork for the functioning of the spiritual sphere.

The above assumptions constitute the theoretical background for the project of constructing a method for assessing the phenomenon of spirituality and for a better understanding of its nature. The basic research question, then, is the following: can spirituality be understood as a personality dimension?

## PROCEDURE

### Construction of Spiritual Sphere Questionnaire (Kwestionariusz Sfery Duchowej, KSD)

The pilot study from the preliminary part of project was published in its entirety in the first 2012 issue of *Roczniki Psychologiczne (Annals of Psychology)*. Because the description of its procedure and results would take up much space here and would be mere repetition, only a summary of its results and conclusions will be presented in the current article. The main focus will be on the second part of research on the construction of KSD, with a short introduction.

### Participants and Procedure in the Pilot Study

Participants in the pilot study, carried out in order to gather lexical data, were 200 individuals (age:  $M = 22.69$ ,  $SD = 3.78$ ) – students of several majors at the University of Gdańsk (UG), the Gdańsk University of Technology (PG), the Academy of Music in Gdańsk (AMG), and the Academy of Fine Arts in Gdańsk (ASPG): students from the Faculty of Languages and History at UG (English Philology,  $N = 97$ ), students from the Faculty of Mathematics, Physics, and Informatics at UG and PG (Informatics and Mathematics,  $N = 76$ ), and students of arts (AMG and ASPG,  $N = 27$ ) (Skrzypińska, 2012). At a later stage of research, the content of utterances of catholic monks and nuns ( $N = 35$ ) was also used. Such selection of participants was determined by the need to obtain the most complete picture possible of how the notion of spirituality is understood, taking into account different interests and life paths.

Paper-and-pencil research consisted of open questions and a request. In order to introduce participants to the subject of spirituality, the following instruction was given: "This survey concerns the phenomenon of spirituality. Every one of you has probably given some thought to what spirituality is, how it manifests itself, and what it leads to. Please read the questions from the sheet very carefully, think, and answer them briefly and specifically. Remember to indicate your gender and give your age." Next, participants received sheets with two questions and one request on them, with the following instruction: "Please answer the two questions and one characterization request briefly. Try to use concise sentences, elliptical sentences, or short phrases. Thank you.

- (1) What is spirituality in a general sense?
- (2) What spirituality is for you?
- (3) Please characterize spiritual strivings."

The survey took from one to several minutes, depending on how much time the respondents needed.

The initial pool of 322 statements were acquired from the pilot study, which were classified into five categories by four independent persons specializing in the psychology of personality or spirituality as well as methodology. The categories were the following: (a) statements showing an emotional aspect, (b) cognitive statements, (c) behavioral statements, (d) statements concerning interpersonal relations, and (e) experiential statements. Next, the lexical material was subjected to a procedure of selection in order to remove linguistically incomprehensible, convoluted, or grammatically incorrect statements, leaving 110 items. The statistical procedure that was applied verified the existence of the above factors. In the next step, the discrimination power of the items was tested and statistically unsatisfying statements were removed – 26 items whose correlation with the general result of the scale was lower than .4, and further 32 items whose correlation with more than one scale was higher than .4. As a result, in the final version of the questionnaire, subjected to further statistical analyses, 52 items were left with values of the correlational indicator of discrimination power higher than .4, characterized by a close to normal distribution of results in the population.

This study allowed us to estimate the initial psychometric values of KSD – reliability as well as content and factorial validity. The analysis of reliability showed that KSD was internally consistent (with Cronbach's  $\alpha$  from .69 for the Dynamics scale to .89 for the Absence of Relation scale) and at the same time characterized by a satisfactory standard error of measurement (from 0.2 for the Aspirotuality scale to 0.5 for the Dynamics scale). The analysis of validity

showed that the result of assessment using KSD may be explained in about 58% by the structure of the four clusters of the questionnaire's items obtained through hierarchical cluster analysis. This procedure allowed to distinguish clusters with similar content structure, probably representing coherent cognitive schemata that make up the category of spirituality, broader than themselves.

### The Final Structure of the Questionnaire

The questionnaire (KSD) consists of 52 questions, to which answers are given on a scale ranging from 1 to 7 (1 – *strongly disagree*, 7 – *strongly agree*). As interpreted below, KSD constitutes a qualitative analysis of spirituality and allows to distinguish four qualities/states associated with spirituality, in accordance with the following cluster categories:

Cluster 1: *Absence of Relation with a Higher Power* (Indifferent attitude to faith in higher powers: no need to believe in, experience, or have a relationship with God / the Absolute / a higher power; no need to look for the sacred. Probably individualism, atheism, or agnosticism). Example item: "I have no need to be closer to God" (see Appendix).

b) Cluster 2: *Aspirituality* (An attitude with negative sentiment towards spiritual matters. Criticism against manifestations of spirituality; down-to-earth attitude to reality. Faith is not an important element in the person's life and plays no significant role in his or her behavior. Evident lack of the need for self-improvement or internal development. Hedonism or extreme atheism probable). Example item: "I do not know what spirituality is."

c) Cluster 3: *State of Spiritual Sphere* (Positive attitude to the spiritual sphere. A high degree of self-awareness and awareness of personal spiritual experience. High ethical sensibility. The need for self-actualization and constant development. Deriving power from spiritual phenomena). Example item: "Prayer gives me a feeling of internal fulfillment."

d) Cluster 4: *Dynamics of Spiritual Sphere* (Attitude reflecting deep spirituality and dynamic actions that stem from it. Expressive manifestations of faith that lead to the person's self-actualization by fulfilling the need for transcendence. Striving for spiritual enlightenment. Active spiritual practice, often accompanied by peak experiences). Example item: "Looking for God is the aim of my life."

The analysis of reliability revealed that each of the distinguished clusters is a reliable (precise and internally consistent) measure of the assessed construct. The values of Cronbach's  $\alpha$  were estimated on a large sample of the general

population and were found to be satisfactory both for women and for men with higher and secondary education.

KSD has items whose content reflects cognitive, emotional/experiential, and behavioral components of spirituality. In the process of interpretation, KSD constitutes qualitative analysis of spirituality, enabling the identification of four qualities/states associated with spirituality. Two of them (State of Spiritual Sphere and Dynamics of Spiritual Sphere) have a positive value, and the remaining two (Absence of Relation to a Higher Power and Aspirituality) are negative.

In the next step of the procedure, the validity of KSD was verified on a random sample of  $N = 1381$  women and men, using the traditional paper-and-pencil technique as well as and via the Internet. The choice of these two methods was determined by two important arguments: the aim was to obtain a sample as large and as diverse as possible. Thanks to applying the two procedures, we avoided the elimination of people who had problems with access to a computer and at the same time we reached those who used the computer exclusively.

Since the pilot study was based on a relatively small and homogenous validation sample, further work on the psychometric characteristics of KSD and its value for assessing spirituality was necessary – to be carried out on samples with different demographic properties and different religious orientations. Consequently, the next step was an attempt at assessing the questionnaire's factorial, criterion-related, and convergent validity as well as reliability on a very diversified population.

### Participants

A total of 1381 persons participated in this part of the project – 42.3% of whom were women ( $N = 584$ ). Among respondents, 56.7% ( $N = 783$ ) were individuals aged up to 30 years. A large proportion of participants (45.4%,  $N = 627$ ) had higher education; individuals with elementary or vocational education constituted only 11.3% ( $N = 156$ ) of the entire sample. Participants were recruited using the snowball sampling method, starting from the group of students – participants in a graduate seminar in psychology at the University of Gdańsk. The research was conducted using the paper-and-pencil method ( $N = 244$ ; 17.7% of the sample) and via the Internet (by filling in an electronic form at the website).

## RESULTS

## The Factor Validity of KSD

The factor validity of KSD was analyzed based on the results of confirmatory factor analysis performed using AMOS 18. In further steps, we used the results of the examination of the validation sample of  $N = 654$  individuals, including 347 women aged between 19 and 73 ( $M = 26.7$ ;  $SD = 5.7$ ) from the general population of adult Poles. CFA performed in order to verify the previously assumed factor structure of KSD using the maximum likelihood method and assuming non-correlation of the residuals revealed that the four factors describing dimensions of spirituality jointly explain 53% of the total variance in the questionnaire's 52 items, which is a satisfactory result. At the same time, the analysis confirmed the earlier assumption concerning the significant correlation of the four factors (clusters); the correlations were found to be very high (from .48 between Clusters 1 and 3 to .72 between Clusters 2 and 3).

Table 1.

*Global Model-to-Data Fit Indicators*

	$\chi^2$	<i>df</i>	<i>RMSEA</i>	<i>p</i> -Close	<i>CFI</i>
Correlated clusters	7256.601	98	.068	.032	.901
Non-correlated clusters	7304.832	104	.079	.001	.987

Analyses of model fit indicators for both assumptions (correlation and non-correlation of clusters) showed that the models differ significantly in terms of validity ( $\chi^2$  difference = 48.231;  $df = 8$ ;  $p < .001$ ), and at the same time *RMSEA* and *CFI* indicators reveal a considerably better fit in the case of the model assuming the correlation of clusters (Table 1). It may be said, therefore, that the structure of KSD was satisfactorily confirmed by confirmatory factor analysis, and it may be concluded that the four factors distinguished in KSD satisfactorily explain the measured construct of spirituality in a population diversified in terms of gender, age, and religious orientation.

## Convergent Validity

In order to verify the hypothesis concerning the convergent validity of the tested spirituality construct, we analyzed correlations between KSD factors for

groups that differed in terms of gender and age. The results are presented in Tables 2, 3, and 4.

Table 2.  
*Intercorrelations Between KSD Factors by Gender*

	Full sample (N = 1381)				Men (N = 692)				Women (N = 584)			
	State	Dynamics	Aspirtuality	Absence of Relation	State	Dynamics	Aspirtuality	Absence of Relation	State	Dynamics	Aspirtuality	Absence of Relation
State	1				1				1			
Dynamics	.53	1			.49	1			.69	1		
Aspirtuality	-.58	-.51	1		-.61	-.63	1		-.53	-.58	1	
Absence of Relation	-.63	-.71	.72	1	-.49	-.49	.77	1	-.65	-.73	.57	1

Note. All correlations in the table are significant at  $p < .001$

Table 3.  
*Intercorrelations Between KSD Factors by Age*

	Women and men up to 30 y. (N = 783)				Women and men 30 y. old or more (N = 481)			
	State	Dynamics	Aspirtuality	Absence of Relation	State	Dynamics	Aspirtuality	Absence of Relation
State	1				1			
Dynamics	.31	1			.80	1		
Aspirtuality	-.37	-.52	1		-.51	-.62	1	
Absence of Relation	-.44	-.17	.38	1	-.68	-.58	.84	1

Note. All correlations in the table are significant at  $p < .001$

Table 4.

*Comparison of Intercorrelations Between Results of KSD Scales by Gender and Age*

	Fisher's Z-Test comparing intercorrelations in samples of men and women				Fisher's Z-Test comparing intercorrelations in samples of younger and older persons			
	State	Dynamics	Aspirtuality	Absence of Relation	State	Dynamics	Aspirtuality	Absence of Relation
State								
Dynamics	Z = -5.537 p < .001 f = -.312				Z = -13.814 p < .001 f = -.778			
Aspirtuality	Z = -2.109 p = .017 f = -.119	Z = -1.402 p = .080 f = -0.079			Z = 3.095 p = .001 f = .174	Z = 2.639 p = .004 f = .149		
Absence of Relation	Z = 4.247 p < .001 f = .239	Z = 6.971 p < .001 f = 0.393	Z = 6.619 p < .001 f = 0.373		Z = 6.336 p < .001 f = .357	Z = 8.714 p < .001 f = .491	Z = -14.578 p < .001 f = -.821	

The results of the analyses show that, irrespective of the participants' gender or age, KSD maintains a relatively permanent structure of internal interrelations. The scales of positive spirituality (Dynamics and State) maintain positive correlation both in the general population ( $r = .53$ ) and in gender-specific samples ( $r = .49$  for men and  $r = .69$  for women) as well as in age-specific ones ( $r = .31$  for individuals up to the age of 30 and  $r = .80$  for older ones). Similarly, positive correlation exists between scales pointing to the negation of spirituality (Aspirtuality and Absence of Relation) regardless of gender ( $r = .77$  for men and  $r = .57$  for women) or age ( $r = .48$  for individuals aged under 30 and  $r = .84$  for older people) as well as in the general population ( $r = .72$ ). Also correlations between the two dimensions of spirituality – positive and negative – are negative regardless of gender or age. The structure itself is constant, meaning that corresponding indicators of correlation between scales maintain the same sign, irrespective of gender or age. However, in the sample of individuals up to the age of 30, the correlations observed are much weaker (though their direction is the same);  $f$  values of effect size above .5 point to a moderate or considerable size of differences. Such comparisons for women and for men were found to be significantly weaker ( $f$  values below .5 indicate a small – though not trivial – size of differences). It may, therefore, be supposed that in the population of adolescents

and young adults spirituality is probably a much more complex and “loose,” “modular” construct than in the population of older people, whereas after the age of 30 it becomes, as it were, monolithic.

In order to analyze convergent validity, we performed an analysis of correlations between KSD results and results on scales measuring similar constructs: religious spirituality (Heszen-Nejodek) and spirituality (Piedmont). We expected considerably high and statistically significant positive correlations between results on State and Dynamics scales and negative correlations (statistically significant and negative) between these measures and the scales of Aspirituality and Absence of Relation With a Higher Power – negative because these scales are, in a way, a “contradiction” of spirituality. The results of correlation analysis performed separately in different gender and age groups are presented in Table 5.

Table 5.  
*Correlations Between Results on KSD and Similar Scales*

	Full sample (N = 1381)			Men (N = 692)			Women (N = 584)			Women and men up to 30 y. (N = 783)			Women and men 30 y. or more (N = 481)		
	ASPIRES		KS	ASPIRES		KS	ASPIRES		KS	ASPIRES		KS	ASPIRES		KS
	T	RS		T	RS		T	RS		T	RS		T	RS	
State	.47	.40	.31	.35	.31	.24	.32	.28	.35	.14	.14	.17	.52	.48	.43
Dynamics	.38	.37	.25	.17	.18	.26	.41	.39	.34	.09	.08	.12	.45	.36	.37
Aspirituality	-.12	-.07	-.24	-.06	-.08	-.13	-.19	-.21	-.28	-.13	-.11	-.21	-.38	-.28	-.22
Absence of Relation	-.19	-.23	-.30	.02	-.03	-.34	-.13	-.05	-.32	-.03	.01	-.07	-.37	-.24	-.39

Note. \**p* < .05; \*\**p* < .01; \*\*\**p* < .001. ASPIRES – Piedmont’s questionnaire: T –Transcendence; RS – Religious Sentiments, KS – Self-Description Questionnaire by Heszen-Nejodek and Gruszczyńska.

Convergence analysis between each KSD cluster and the results on the measures for assessing spirituality and religiousness developed by Heszen-Nejodek, and Gruszczyńska (Self-Description Questionnaire) (2004) and by Piedmont (ASPIRES) (2010) reveal high convergence between them regardless of gender and age (Table 5). Only the negation of spirituality (Aspirituality and Absence of Relation) in the population of young women and men (under the age of 30) seems to be much weaker (and statistically non-significant) compared to the remaining social groups. This may be another finding supporting the thesis that spirituality is much more “modular” (compact, functional) in this population than it is in others. However, results for men and women as well as for women and

men over the age of 30 are highly satisfactory. There is a statistically significant and moderate to strong correlation between results on KSD and Piedmont's scale. At the same time, the results suggest that KSD generally correlates with Piedmont's scale slightly less strongly (as shown by the  $f$  indicator of effect size, though the difference is statistically significant at  $p < .001$ ) than with the one by Heszen-Niejodek et al. (see Tables 5 and 6). It can therefore be supposed that KSD spirituality is related to religiousness to a smaller degree than with the spiritual attitude measured by Piedmont's scale.

Table 6.

*Results of Pearson-Filon Z-Test – Comparison of the Correlational Power of KSD with that of ASPIRES and KS*

	Full sample ( $N = 1381$ )		
	$Z$	$p$	$f$
State	4.057	< .001	.21
Dynamics	5.159	< .001	.26
Aspirituality	4.548	< .001	-.23
Absence of Relation	4.246	.000	-.21

According to Piedmont's theory (2005, 2010), spirituality constitutes a separate dimension of personality beside the traditionally distinguished five dimensions described in the Big Five model (Costa & McCrae, 2003). The results of analyses carried out by Piedmont (2010, p. 26) show that a person with a high level of spirituality is characterized by high Neuroticism and Agreeableness as well as by relatively high Openness to Experience.

The convergence of KSD scores with NEO-FFI results for five personality traits was analyzed in the same manner. The results of the analyses are presented in Table 7.

Table 7.

*Correlations Between KSD and NEO-FFI Results*

	Full sample ( $N = 1381$ )				
	NEU	EXTR	OPEN	AGREE	CONS
State	.21***	-.26***	.22***	.14***	.27***
Dynamics	.18***	.24***	.13***	.10***	-.09***
Aspirituality	-.05*	-.04	.14***	.02	.03
Absence of Relation	-.03	.04	.12***	-.09***	-.04

Note. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

As expected, the results of analysis reveal the existence of statistically significant and relatively high correlations between the scales of positive spirituality (State and Dynamics) and the factors of the Big Five; however, these correlations are much weaker or disappear entirely in the case of negative spirituality scales (Aspirituality and Absence of Relation). It can therefore be supposed that while positive spirituality may be related to personality, negative spirituality is related to it only to a slight degree. What is interesting, KSD shows stronger positive relations with Openness to Experience and Extraversion and a stronger negative relation with Neuroticism than ASPIRES.

### The Reliability of KSD

The reliability of KSD was measured by analyzing Cronbach's alpha and composition alpha internal consistency coefficients, assessed on a sample of  $N = 1381$  individuals, and by measuring temporal stability on a random sample of  $N = 203$  individuals. The results of the analyses by gender and age are presented in Table 8.

Table 8.  
*Internal Consistency Indicators for KSD Scales by Gender and Age*

		Full sample ( $N = 1381$ )	Men ( $N = 692$ )	Women ( $N = 584$ )	Women and men up to 30 y. ( $N = 783$ )	Women and men 30 y. or more ( $N = 481$ )
State	Cronbach's Alpha	.61	.69	.66	.51	.78
	Alpha of composition	.45	.53	.46	.32	.59
Dynamics	Cronbach's Alpha	.68	.74	.72	.59	.81
	Alpha of composition	.43	.47	.40	.37	.66
Aspirituality	Cronbach's Alpha	.73	.68	.71	.50	.82
	Alpha of composition	.53	.62	.51	.29	.61
Absence of Relation	Cronbach's Alpha	.75	.81	.76	.53	.89
	Alpha of composition	.52	.49	.53	.39	.64

The results of internal consistency analysis reveal a satisfactory consistency of each cluster, both for general population as well as for populations of men and women or for that of individuals aged above 30. Internal consistency was found to be considerably lower for participants under the age of 30, which may result in a lower reliability and accuracy of measurement using KSD than in the case of the remaining populations.

The last reliability test applied was the analysis of temporal stability, conducted on a random general population sample. The examination was performed using the test-retest method, with a six to eight-week interval between measurements. The results of temporal stability analysis are presented in Table 9.

Table 9.

*Temporal Stability Indicators*

	Full sample ( <i>N</i> = 203)	Men ( <i>N</i> = 77)	Women ( <i>N</i> = 126)	Women and men up to 30 y. ( <i>N</i> = 92)	Women and men 30 y. or more ( <i>N</i> = 105)
State	.79	.73	.59	.43	.73
Dynamics	.83	.69	.49	.51	.81
Aspirtuality	.69	.85	.71	.49	.67
No relation	.67	.92	.73	.38	.69

*Note.* The table above illustrates real correlations between latent factors.

The results of analysis show KSD measurement to be considerably stable over a short period of time, relatively regardless of gender and age. Temporal stability indicators are high in the general population as well as for both genders. The only exception is the sample of individuals up to the age of 30, where temporal stability indicators (though statistically significant) are significantly lower than the corresponding values for other samples.

## RESULTS AND DISCUSSION

Summing up the results of the analyses performed, it can be said that they show a considerable validity of KSD as a method for assessing the spiritual sphere in the Polish culture. However, this spirituality appears not to be strictly connected with religiousness (as understood by the Roman Catholic religion). It refers more to transcendence, which constitutes one of the dimensions of spirituality. What is intriguing is only the result pointing to correlations, difficult to interpret, between personality and KSD. These results indicate that the positive aspect of spirituality correlates significantly with personality in an interpretable and coherent manner, with high emotional sensitivity (neuroticism), conscientiousness, openness to experience, and agreeableness are usually conducive to positive spirituality. Still, personality appears not to be connected with negative spirituality (i.e. with the negation of spirituality) – the two extremes of the same

continuum thus have different mechanisms of relation to personality. Positive spirituality correlates with personality without this being the case for negative personality? Perhaps the latter stems from factors other than personality-related ones – for example, from attitudes or the influence of the environment (perhaps from elusive and changeable factors).

What is interesting, a number of validity analyses reveal that KSD has systematically lower validity in the case of measuring the spirituality of individuals under the age of 30. Perhaps the early adulthood period, when individuals face considerable existential challenges, is not conducive to building spirituality in its transcendent dimension. This thesis should probably be verified in a broader context of developmental challenges – spirituality should be subjected to detailed examination by means of several tools, in the period of adolescence, taking into account developmental crises, development dynamics, etc. It should be remembered that although human personality evolves during the entire life, the evolution is much slower after the age of 30 (cf. Costa & McCrae, 2003). This may be a significant variable influencing the consolidation of spirituality in its relation with personality. Since we are discussing spirituality as a dimension of personality, it is legitimate to advance such a hypothesis.

The results of KSD reliability analyses show a satisfactory internal consistency of the scales; although Cronbach's alpha coefficients frequently do not exceed the threshold value of .70, they can be regarded as sufficient for the measurement of spirituality, a concept that is not strictly defined or unambiguous and has fluid boundaries (in the respondent's understanding especially). At the same time, analysis of temporal stability over a few weeks' time gave highly satisfactory results. They show that spirituality is potentially stable in time over a short period, and the results are strongly connected with one another. Again, however, a number of reliability analyses showed that the psychometric indicators of KSD scales in the group of adolescents and young adults (under the age of 30) are lower than in the remaining social groups. It is therefore necessary to consider whether KSD is suitable to the same degree for measuring the spirituality of younger and older individuals. There is a possibility that the concept of spirituality is defined in different ways in the populations of younger and older people and that this results in the assessment of spirituality among individuals under the age of 30 being less reliable and valid compared to the assessment carried out on other populations.

The obtained results challenge the view that spirituality should be unambiguously understood only as a dimension of personality (cf. Piedmont, 1999; MacDonald, 2000). It seems that the positive correlation between positive as-

pects of spirituality (State and Dynamics) and the Big Five personality traits as well as the absence of correlation between negative clusters (Aspirituality and Absence of Relation) and personality may suggest a much more complex nature of the spiritual sphere, e.g. cross-relation. For example, the fact that each cluster contains experiential, cognitive, emotional, behavioral, or social elements illustrates the diversity of the spirituality phenomenon described by the questionnaire's items (cf. Pyysiäinen, 2001; Saucier & Skrzypińska, 2006; Trzebińska, 2008). For this reason, in conclusion, spirituality should be approached in terms much broader than merely those of personality – it should be understood and approached as a complex attitude to life, stemming from it personality, whose core takes the form of cognitive, emotional and motivational, as well as behavioral components developed on the basis of biological predispositions and formed in the process of socialization among members of society. Such an understanding of spirituality is additionally confirmed by the content of the respondents' statements, collected in the pilot study and presented in a separate article (Skrzypińska, 2012).

Another argument in favor of such an approach to spirituality is the fact that individuals are especially likely to change attitudes in the precarious period between the age of 18 and 25. Above this age bracket, our attitudes are more stable and resistant to change (Krosnick & Alwin, 1989; Sears, 1981). This would explain why we obtained better stability, validity, and reliability results for KSD among individuals aged over 30. As can be seen, "early adulthood" constitutes a not fully formed area of crystallization of the clear attitude to life that spirituality can be.

The concept of attitude, used in this way to refer to the spiritual sphere, gives extensive descriptive possibilities from the point of view of cognitive social psychology. Given that an attitude is an evaluation of certain objects, people, or things (Eagly & Chaiken, 1993; Olson & Zanna, 1993), the concept seems to be used here in the sense of evaluation of one's own life in relation to the higher power whose existence the subject believes in. It appears to be connected with the process of self-actualization through the fulfillment of transcendent needs. In this context, spirituality seems to be viewed as a phenomenon with a high personal significance (Petty & Cacioppo, 1981).

## CONCLUSIONS AND LIMITATIONS

The Spiritual Sphere Questionnaire appears to be a valuable complement to the possibilities of spirituality assessment offered by the methods mentioned in the theoretical part of this article. It may constitute a good alternative when trying to characterize the state and dynamics of the spiritual sphere or when diagnosing positive vs. negative spirituality. These concepts are easy to use since they have been clearly and precisely defined by empirical means.

A weaker point of this tool is its lower reliability in the case of measuring spirituality in individuals representing the so-called early adulthood age band (under the age of 30). For this reason, when interpreting results, it is necessary to exercise caution by taking into account the possibility of a different understanding of spirituality at this age.

In the future, it would be advisable to check, among participants diversified in terms of age, how deeply rooted the concept of spirituality is in their cognitive system as well as to apply alternative comparative methods for investigating personality in order to find out whether the results obtained for correlations with the NEO-FFI are characteristic only for measurements using this tool or, generally, for personality measurement.

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**Appendix**  
**Wroclaw Taxonomy Results**  
**– Spiritual Sphere Questionnaire**

The content of statements	No. of item	Cluster
I believe in the spirits of dead ancestors, who take care of us.	23	Cluster 4 DYNAMICS of Spiritual Sphere
I have the need to believe in an afterlife.	46	
Looking for God is the aim of my life.	3	
For me, spirituality is an antidote to the absurdities of everyday life.	39	
Spiritual experiences are a form of escape from reality for me.	5	
I often contemplate, pray, or meditate.	33	
Mystical experiences deepen my spiritual development.	6	
I intensify my belief in the extrasensory world.	8	
I experience profound ecstasy being in contact with the Creator.	35	
I lead my life in such a way as to deserve immortality.	10	
Spiritual enlightenment is the meaning of my life.	11	
I direct my feelings towards the Higher Being.	52	
I strive for balance between the spiritual and the carnal spheres.	13	
Prayer gives me a sense of inner fulfillment.	50	
I like to experience unity with the Absolute.	43	
I strive to attain full unity with the Higher Being.	45	
I often delve into the spiritual spheres of life.	17	Cluster 3 STATE of Spiritual Sphere
When I see evil – my soul hurts.	29	
Self-awareness allows me to have insight into my own soul.	19	
The aim of my life is continuous personality development.	37	
My internal sensibility helps me to go beyond the boundaries of myself.	21	
The state of spirit is the determinant of my happiness.	31	
My inner life is the source of inspiration for me.	1	
I can notice the non-material world.	24	
I feel that some intangible reality exists.	41	
I value my personal spiritual experiences, which give me inner power.	26	
I wish to get to know myself and the world so as to penetrate the mystery of existence.	48	
I am a person sensitive to art, which makes me more spiritual.	28	

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I do not attach significance to the spiritual sphere.	20	
I do not know what spirituality is.	30	
Spiritual development is not very important for me.	32	
It is absurd that spiritual experiences help to understand people and the world.	22	
I am guided by down-to-earth values.	7	
My spirituality has no influence on my behavior.	34	
I do not like delving into mystical experience.	38	
I do not strive to achieve perfection of the soul.	36	
I do not strive to fulfill spiritual needs.	2	
Mysticism is a fabrication of ill philosophers.	27	
I do not want to work on self-improvement to achieve harmony and serenity.	4	
Death definitively breaks contact with others.	40	
I do not want to work on self-improvement to achieve perfection of my existence.	25	
There is nothing divine in me.	42	
<hr/>		
Deep emotional faith is not an indispensable element of my life.	15	
Faith is not an important part of my life.	44	
I do not experience contact with God.	18	
No sacredness makes an impression on me.	16	
I do not follow God's recommendations.	47	
I have no need to be closer to God.	9	
Belief in God does not strengthen me in difficult moments.	49	
The sacral sphere has no influence on my life.	14	
I do not believe in a Higher Power that influences the fate of the world.	51	
I do not feel God's existence.	12	

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Cluster 2  
Aspirituality

Cluster 1  
Absence of Relation  
with a Higher Power