

## PSYCHOMETRIC PROPERTIES AND VALIDATION OF THE POLISH TRANSLATION OF THE INTEGRATIVE SELF-KNOWLEDGE SCALE

Aleksandra Pilarska

Instytut Psychologii, Uniwersytet im. Adama Mickiewicza w Poznaniu  
Institute of Psychology, University of Adam Mickiewicz in Poznan

**Summary.** The Integrative Self-Knowledge Scale (ISK), assessing an individual's tendency to engage in a cognitive process of uniting self-experience across time, was translated into Polish. The first part of the article presents the psychometric evaluation of the Polish version. A three-factor structure was shown by both exploratory and confirmatory factorial analyses. Reliability analysis provided evidence for internal consistency in terms of Cronbach's  $\alpha$  and item-total correlations. The second part of the paper reports further evidence of construct validity. Correlation and regression analyses revealed, as expected, that ISK was positively associated to the indicators of a coherent sense of self (i.e., a strong sense of identity and role interrelatedness) and active cognitive processing (i.e., need for cognition and reflection), and negatively related to self-concept differentiation. These findings suggest a successful translation of the original scale.

**Key words:** integrative self-knowledge, identity, self-coherence, measurement

### Introduction

One of the core ideas underlying many classical theories of personality is that healthy development is characterized by the construction of a stable and coherent sense of self (e.g., Lecky, 1945; Rogers, 1959; Funder, 1995; Freud, 2005). Zajonc (1960) described inconsistency as "a painful or at least psychologically uncomfortable state" (p. 282). Drawing on these traditions, various other psychological perspectives (e.g., Deci, Ryan, 2000; Epstein, 2003; Swann, Rentfrow, Guinn, 2005) posit that people are naturally inclined to synthesize their psychic elements into a unified self and that the need to maintain the stability and coherence of a person's conceptual system is basic.

The Integrative Self-Knowledge Scale (ISK) is a relatively new instrument developed to measure a temporally integrated understanding of processes within the self (Ghorbani, Watson, Hargis, 2008). Ghorbani, Watson, and Hargis (2008) defined integrative self-knowledge "as an adaptive and empowering attempt of the self to

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Adres do korespondencji: Aleksandra Pilarska, e-mail, [alpila@amu.edu.pl](mailto:alpila@amu.edu.pl)

understand its experience across time to achieve desired outcomes" (p. 397). Research supports the benefits of integrative self-knowledge in enhancing mood and well-being while decreasing anxiety, depression, and various stress indicators (e.g., Ghorbani, Watson, Hargis, 2008; Ghorbani et al., 2013; Ghorbani et al., 2013a); and relates integrative self-knowledge to broad personality traits such as the Big Five (Tahmasb, Ghorbani, Watson, 2008).

The ISK scale includes 12 items referring to an individual's efforts (1) to understand past experience (e.g., If I need to, I can reflect about myself and clearly understand the feelings and attitudes behind my past behaviors), (2) to maintain awareness of the self in the present (e.g., Most of the time, I get so involved in what is going on that I really can't see how I am responding to a situation), and (3) to move toward desired goals in the future (e.g., By thinking deeply about myself, I can discover what I really want in life and how I might get it). Each item is rated on a five-point Likert scale, ranging from "largely untrue" (0) to "largely true" (4). The higher the score, the higher the degree of integrative self-knowledge. The ISK scale has been shown to be internally reliable and has been associated with criterion, convergent, discriminant, and incremental validity (Ghorbani, Watson, Hargis, 2008).

The purpose of this article is to report on the translation and validation of the Polish version of the ISK Scale. The first psychometric part on the Polish adaptation includes item descriptives, their underlying structure (using both exploratory and confirmatory approach), and the internal consistencies. The second part assesses the validity of the scale by correlation analysis with the Self-Incoherence Scale (SICS, Styła, Jankowski, Suszek, 2010), the Self-Complexity Questionnaire (SCQ, Linville, 1987; Polish adaptation by Barczak, Besta, Bazińska, 2007), the Need for Cognition Scale (NCS, Cacioppo, Petty, 1982; Polish adaptation by Matusz, Traczyk, Gašiorowska, 2011), the Reflection subscale of the Rumination-Reflection Questionnaire (RRQ Shortforms, Trapnell, 1997; Polish translation by Pilarska, Suchańska, 2013), and the Multidimensional Questionnaire of Identity (MQI, Pilarska, 2012).

## Psychometric properties

### Method

**Participants.** The sample included 528 Polish young adults, students in different faculties of study (60% female and 40% male), whose age ranged from 18 to 32 years ( $M = 21.27$ ,  $SD = 1.47$ ). All participants completed the ISK scale with a five-point response scale. They were informed that the participation was voluntary and that their responses would be anonymous and confidential.

**Procedure.** The Polish version of the ISK scale was developed through translation and back translation process. Two independent forward translations were made by two experts in psychology and English. From the two translations a unified Polish version of the ISK scale was created, aided by discussion between the experts with reference to wording and content. This version was then translated back into English. An English translator verified the convergence between the back-transla-

tion and the original scale. Any differences were discussed and resolved by consensus. Appendix A presents sample items from the Polish ISK scale.

## Results

### Basic statistical description

The basic items and scale properties for the Polish adaptation are given in table 1. All data were checked for normality. The univariate skewness of the items ranged from -1.27 to 0.07, and their univariate kurtosis ranged from -1.12 to 1.89, suggesting no severe departure from normality (Kline, 1998). The relative multivariate kurtosis of 1.31 indicated that the assumption of multivariate normality was tenable (Tabachnick, Fidell, 2001).

To examine gender differences, for each item and the total score, an independent Mann-Whitney test was computed comparing the male and female scores.

Table 1. Descriptives for the Polish version of the ISK scale

Variable	<i>M</i>	<i>SD</i>	<i>Sk</i>	<i>Ku</i>	<i>M</i> <sub>women</sub>	<i>SD</i> <sub>women</sub>	<i>M</i> <sub>men</sub>	<i>SD</i> <sub>men</sub>	<i>U</i>
ISK1	2.65	1.12	-0.78	-0.04	2.68	1.09	2.60	1.16	32433.00
ISK2	3.04	0.97	-1.23	1.33	3.08	0.96	2.99	1.00	31698.50
ISK3	3.04	0.92	-1.27	1.89	3.11	0.86	2.93	0.99	30521.00
ISK4	1.75	1.21	0.17	-1.04	1.60	1.20	1.98	1.20	27694.00***
ISK5	1.86	1.22	0.07	-1.08	1.76	1.20	2.01	1.24	29780.00*
ISK6	1.92	1.22	0.17	-1.08	1.80	1.20	2.11	1.23	28839.50**
ISK7	1.76	1.28	0.20	-1.12	1.61	1.26	1.98	1.28	27979.50***
ISK8	2.12	1.15	-0.12	-0.85	2.01	1.13	2.28	1.15	28930.00**
ISK9	2.45	1.12	-0.47	-0.58	2.42	1.10	2.49	1.15	32112.00
ISK10	2.51	1.14	-0.53	-0.50	2.49	1.12	2.53	1.17	32654.00
ISK11	2.57	1.11	-0.56	-0.37	2.61	1.07	2.51	1.17	32254.50
ISK12	2.54	1.10	-0.47	-0.54	2.48	1.07	2.64	1.14	30515.50
ISK	2.35	0.63	0.07	0.06	2.31	0.60	2.42	0.66	30458.50

Note: *SE* for skewness = 0.11; *SE* for kurtosis = 0.21; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p \leq .001$

### Factorial analysis

In order to examine the internal structure and multidimensionality of the Polish version of the ISK scale a principal components analysis with a varimax rotation and the number of factors defined by eigenvalues  $\geq 1.00$  was used. The appropriateness of factor analysis was supported by Bartlett's test of sphericity,  $\chi^2(66) = 1816.46$ ,  $p < .001$ , and the Kaiser-Meyer-Olkin measure of sampling adequacy (.82). A three-factor solution emerged, which accounted for 58.69% of the total variance,

considerably (almost 10%) more than reported by Ghorbani, Watson, and Hargis (2008). The eigenvalues of the three components were as follows: 2.75, 2.38, and 1.91. All items loaded on their designated factor. Maximal loadings of all items on a factor were greater than .57. Table 2 shows the component structure of the Polish version of the ISK scale. The first factor was defined by the five present- and past-oriented items, the four items of the second factor were present-oriented, and the three items of the third factor considered past- and future-oriented self-experience.

Table 2. PCA loadings for Integrative Self-Knowledge items

Variable	PCA		
	1	2	3
ISK1	-.01	.07	<b>.79</b>
ISK2	.28	-.10	<b>.75</b>
ISK3	.20	-.05	<b>.80</b>
ISK4	.03	<b>.75</b>	-.03
ISK5	.13	<b>.79</b>	-.06
ISK6	.21	<b>.72</b>	.07
ISK7	.29	<b>.64</b>	-.04
ISK8	<b>.57</b>	.40	.07
ISK9	<b>.78</b>	.17	.04
ISK10	<b>.76</b>	.18	.15
ISK11	<b>.72</b>	.06	.15
ISK12	<b>.68</b>	.15	.19

Note: Varimax-rotated principal components; major loadings are given in boldface type

Next, the factor structure of the Polish version of the ISK scale was investigated through confirmatory factor analysis with maximum likelihood estimation. Three models were compared: one-factor model, in which the 12 items were assumed to be indicators of a single latent factor, two-factor model, in which five items were assumed to express past- and future-oriented self-experience (items 1, 2, 3, 11, and 12), whereas the remaining 7 items were assumed to capture present-oriented self-experience (items 4, 5, 6, 7, 8, 9, and 10), and the original three-factor model proposed by Ghorbani, Watson, and Hargis (2008). Based on the goodness of fit summary shown in table 3, it can be concluded that the three-factor model is the best fitting model, whereas the one-factor model provides the poorest fit. For the three-factor model, the chi-square test turned out to be significant,  $\chi^2(51) = 179.68, p < .001$ . However, it must be remembered that this result is highly dependent on such factors as, e.g., sample size, number of variables, number of free parameters, and deviations from the normal distribution of the data, which may be the reason for less satisfactory results (Zakrzewska, 2004). The CFI, NFI, GFI, and AGFI were all above their desired levels (CFI = .95, NFI = .94, GFI = .94, and AGFI = .92). The results for RMSEA and SRMR fell within range of acceptable values (RMSEA = .07 and SRMR = .05), and

the upper confidence limit for RMSEA did not exceed the upper acceptable value of .08. In addition, all factor loadings, as shown in table 4, were significant ( $p < .05$ ) and were in the expected direction<sup>1</sup>. Overall, the various goodness-of-fit statistics indicate that the three-factor model fits the empirical data well, and are comparable to the model fit statistics reported by Ghorbani, Watson, and Hargis (2008) for the Iranian sample.

Table 3. Goodness of fit summary for the different models tested

Model	$\chi^2$ (df)	RMSEA	SRMR	CFI	NFI	GFI	AGFI	AIC
One factor	704.88 (54)	.15	.12	.71	.70	.78	.68	6751.09
Two factors	588.33 (53)	.14	.11	.76	.75	.81	.72	6636.53
Three factors	179.68 (51)	.07	.05	.95	.94	.94	.92	6231.88

Note: The chi-square statistics were significant at  $p < .001$

Table 4. CFA loadings for Integrative Self-Knowledge items

Variable	Factor		
	1	2	3
ISK1			.51
ISK2			.75
ISK3			.76
ISK4		.59	
ISK5		.73	
ISK6		.66	
ISK7		.61	
ISK8	.61		
ISK9	.71		
ISK10	.74		
ISK11	.62		
ISK12	.64		

Note: Standardized path loadings are shown; all loadings were significant at  $p < .05$

### Internal consistencies

The internal consistencies of the three factors all exceeded .70. Standardized Cronbach's alpha coefficients were  $\alpha = .80$ ,  $\alpha = .74$ , and  $\alpha = .71$ , respectively. The internal consistency estimate of the full scale showed a reliability of  $\alpha = .79$ , which is comparable to previous reports on the original version of the ISK scale (Ghorba-

<sup>1</sup> Inspection of the modification indices revealed that the model fit could be slightly enhanced by allowing items 7 and 8 to load simultaneously on the second and third factors,  $\chi^2$  (49) = 144.83,  $p < .001$ , GFI = .95, AGFI = .93, RMSEA = .06, SRMR = .04. However, both of the added paths were rather small in magnitude: standardized path loadings were .25 (item 8 loading on factor 2) and .16 (item 7 loading on factor 3).

ni, Watson, Hargis, 2008; Tahmasb, Ghorbani, Watson, 2008; Ghorbani et al., 2010; Ghorbani et al., 2011; Ghorbani et al., 2012). The mean corrected item-total correlation for the 12 items was  $r = .44$ , and the mean corrected item-total correlations for each factor were  $r = .58$ ,  $r = .53$ , and  $r = .52$ , respectively.

### Factors intercorrelations

Significant positive correlations were found between those factors that share some level of conceptual overlap, namely between the first and the third factor,  $r = .33$ ,  $p < .001$ , as well as between the first and the second factor,  $r = .45$ ,  $p < .001$ . The correlation between the second and the third factor was not significant,  $r = .001$ ,  $p > .05$ .

### Convergent and discriminant validity

In order to examine the convergent and discriminant validity of the Polish version of the ISK scale, correlations with measures of identity, self-coherence, and thinking dispositions were computed. The following hypotheses were tested:

- First, integrative self-knowledge should correlate positively with sense of identity. This hypothesis expresses the core idea that, as Hilgard (1949) notes, "the person himself needs to have continuous memories, dated in his personal past, if he is to have a sense of personal identity. (...) Break the continuity of memories and we have dissociation, split personalities, fugue states, and other distortions of the self" (p. 378). As countless theorists have pointed out, it is constitutive of what it means to have an identity to somehow count oneself as continuous in time (e.g., Erikson, 1963, 1968; Damon, Hart, 1988; Sokolik, 1996; Vignoles et al., 2006; Goth et al., 2012). Also, a substantial body of research in narrative theory has emphasized that identity difficulties are often the result of one's inability to construct a life story that makes sense – integrates interpretations of the past with the present self and provides life with purpose (e.g., McAdams, 1988; Singer, 2004; McAdams et al., 2006; McLean, Pratt, 2006; McLean, 2008).
- Second, integrative self-knowledge should correlate positively with reflection and need for cognition. This hypothesis is partly based on Ghorbani, Watson, and Hargis's (2008) and Ghorbani, Cunningham, and Watson's (2010) findings that integrative self-knowledge is positively associated with reflection and private self-consciousness as well as with mindfulness, awareness to self, experiential and reflective self-knowledge. Conceptually relevant to the process of self-knowledge and self-understanding is an individual-difference characteristic called need for cognition. It refers to a person's enjoyment and tendency to engage in effortful thinking (Cacioppo et al., 1996). Individuals high in need for cognition "naturally tend to seek, acquire, think about, and reflect back on information to make sense of stimuli, relationships, and events in their world" (Cacioppo et al., 1996, p. 198). In addition, it has been shown that need for cognition correlates with informational identity style (Berzonsky, 2008), social identity complexity (Miller, Brewer, Arbuckle, 2008), levels of Eriksonian psy-

chosocial identity development and Marcia's identity statuses (Njus, Johnson, 2008), self-concept clarity (Campbell et al., 1996), and openness to experience (Tahmasb, Ghorbani, Watson, 2008; Fleischhauer et al., 2010).

- Third, integrative self-knowledge should correlate positively with role overlap and negatively with self-incoherence. This hypothesis considers self-concept as a dynamic and multifaceted phenomenon. The notion of the self as plural allows distinguishing between its content and structural features, among which the most broadly discussed in the psychological literature are self-complexity (Linville, 1987) and self-concept differentiation (Donahue et al., 1993). Self-complexity is understood as the number and diversity of self-aspects developed for different roles (Linville, 1987). It is measured by an H-statistic calculated according to the formula used in exact sciences to assess the level of qualitative data dispersion. Critical remarks towards this indicator became the basis for developing such a measure of self-complexity level that distinguishes its two components: the number of self-aspects and the degree of overlap in their content (Rafaeli-Mor, Gotlib, Revelle, 1999). They then became the basis for a new method of calculating complexity (Sakaki, 2004). The second component of self-complexity, overlap, can be tied to the concept of self-concept differentiation (self-concept incoherence). Self-concept differentiation refers to an individual's tendency to view oneself as possessing different personality characteristics across different social roles or contexts (Donahue et al., 1993). Prior research on both these constructs has pointed on the adaptive value of self-concept consistency and argued that high self-concept differentiation is indicative of an incoherent and fragmented self-concept (e.g., Donahue et al., 1993; Diehl, Hastings, Stanton, 2001; Campbell, Assanand, Di Paula, 2003). This concurs with Block's (1961) description of an individual who lacks a coherent self as "an interpersonal chameleon, with no inner core of identity, fitfully reacting in all ways to all people" (p. 392). Moreover, previous work has shown that self-concept differentiation is negatively associated with self-realization (Donahue et al., 1993), self-concept clarity (Goldman, 2004), and identity integration (Sheldon et al., 1997; Goldman, 2004), and positively associated with ruminative dialogues (Talik, Bağ, 2011) and dissociation (Lutz, Ross, 2003).

No specific predictions were made regarding correlations between integrative self-knowledge and number of self-aspects and self-complexity, as self-complexity does not necessarily mean the opposite of cohesion within the self. Similarly, the quantity of self-aspects does not assume the degree of integration (Koch, Shepperd, 2004; Rafaeli, Hiller, 2010).

## Method

**Participants.** The sample included 414 Polish young adults, students in different faculties of study (64.7% female and 35.3% male), whose age ranged from 19 to 28 years ( $M = 21.25$ ,  $SD = 1.39$ ). All participants filled out the ISK scale along with various self-related and cognitive measures. The Cronbach's alphas (standardized) of the overall ISK scale and the three subscales were  $\alpha = .78$ ,  $\alpha = .77$ ,  $\alpha = .73$ , and  $\alpha = .71$ , respectively. The mean and standard deviation for the overall ISK score was  $M = 2.41$  and  $SD = 0.59$ . The comparison between female and male participants indicated no significant difference,  $U = 18604.00$ ,  $p = .41$ . All participation was voluntary and anonymous.

## Measures

**Sense of Identity.** To measure a sense of personal identity, understood as a recurring mode of experiencing oneself-as-subject, extended form of the Multi-dimensional Questionnaire of Identity (MQI, Pilarska, 2012, 2014) was employed. The questionnaire consists of six subscales measuring the degree of accessibility, specificity, separateness, coherence, stability, and valuation of identity content, including a total of 45 items (e.g., I feel that I was once a very different person than I am now; It happens that I perceive my close one as an important part of my self). All items are evaluated on a four-level scale ranging from "strongly disagree/never" to "strongly agree/always". In the present study, a single composite score for a global sense of identity (GSI) was computed by averaging scores across all identity dimensions. The standardized Cronbach's alpha coefficient for the overall scale was  $\alpha = .89$ .

**Need for Cognition.** Need for cognition was assessed via an adapted version of the Need for Cognition Scale (NCS, Cacioppo, Petty, 1982; Matusz, Traczyk, Ga-siorowska, 2011). The scale includes 36 items (e.g., I try to avoid situations that require intensive thinking from me; I enjoy broadening my knowledge about things) evaluated on a five-point scale, ranging from "strongly disagree" to "strongly agree". Psychometric properties of the Polish version of the NCS are comparable to those of the original version: the reliability and stability indices are  $\alpha = .91$  and  $r = .86$ , respectively (Matusz, Traczyk, Ga-siorowska, 2011). In the present study, the internal consistency of this scale, as measured by Cronbach's standardized reliability coefficient, was  $\alpha = .88$ .

**Reflection.** Reflection was measured with the 8-item Reflection subscale taken from the Rumination-Reflection Questionnaire – Shortform (RRQ Shortforms) by Trapnell (1997). Every item (e.g., I love exploring my "inner" self) is presented on a five-point scale, allowing for a range of responses from "strongly disagree" to "strongly agree". The Cronbach's standardized reliability coefficient for the translated version of this scale was  $\alpha = .81$ .

**Self-Incoherence.** The Self-Incoherence Scale (SICS) by Styła, Jankowski, and Suszek (2010) is a self-concept integration measure based on Block's (1961) and Donahue et al.'s (1993) scales. The participants are instructed to rate how descriptive 7 personality traits are of them in each of five different social roles (student, ro-

mantic partner, son or daughter, friend, and worker), using a seven-point Likert scale. The 7 attributes were selected after a series of pilot studies (Styła, Jankowski, Suszek, 2010). For each participant a single index, representing the absolute differences among the roles, was computed (i.e., the mean standard deviation across attributes, Donahue et al., 1993; Goldman, 2004; Styła, Jankowski, Suszek, 2010). Styła, Jankowski, and Suszek (2010) reported the reliability coefficient for the SICS as being  $\alpha = .90$  and the stability coefficient of  $r = .73$ . The internal consistency of this scale in the present sample, as measured by Cronbach's standardized reliability coefficient, was  $\alpha = .81$ .

**Self-Complexity.** To obtain measures of self-complexity, the Self-Complexity Questionnaire by Barczak, Besta, and Bazińska (2007) was used. This instrument is based on self-descriptive trait-sorting task used by Linville (1987) but contains several minor adaptations. First, the trait adjectives are listed in a sheet given to each participant, instead of being printed on cards. Second, a longer and more balanced list of traits is used (60 traits, divided equally between those with positive and negative valence). The participants were provided with a list of adjectives and a recording sheet with blank columns. They were first prompted to read the list and then think of the different roles they play in their lives. After that the participants were asked to form groups of traits, so that each group was descriptive of an aspect of their life. Three measures of self-complexity were computed from the data generated by this task. Two of them indicated two components of self-complexity as suggested by Rafaeli-Mor, Gotlib, and Revelle (1999): the number of self-aspects an individual generates (NSA) and the degree of overlap between self aspects (OL), reflecting the average communality between all pairs of self-aspects. OL is calculated by following formula:

$$OL = (\sum_i (\sum_j C_{ij}) / T_i) / n * (n-1) \quad (1)$$

where  $C$  is the number of common traits in two aspects;  $T$  is the total number of traits in the referent aspect;  $n$  is the total number of aspects in the person's sort and  $i$  and  $j$  vary from 1 to  $n$  ( $i$  and  $j$  are unequal). The third measure was the SC statistic ( $SC = NSA/OL$ ) proposed by Sakaki (2004), which is a single measure of self-complexity alternative to the one of Linville (1987).

## Results

The expectations as well as the observed correlations between the ISK scale and other variables are given in table 5. Following Ghorbani, Watson, and Hargis (2008), the total scores on the ISK scale were used in the analysis. The obtained results are in line with predictions. Integrative self-knowledge correlated positively with global sense of identity, need for cognition, reflection, and role overlap. The strongest positive relation was observed between integrative self-knowledge and sense of identity,  $r = .53, p < .001$ . Moreover, integrative self-knowledge correlated negatively with self-incoherence,  $r = -.13, p < .01$ . Finally, no significant relationships occurred between integrative self-knowledge and number of self-aspects and self-complexity.

Table 5. Convergent and discriminant associations between the ISK scale and self-related and cognitive measures

Variable	P	<i>r</i>	$\beta$	<i>sr</i>	<i>M</i>	<i>SD</i>
GSI	+	.53***	.44***	.39	13.77	2.30
NFC	+	.42***	.16***	.14	127.64	17.74
REF	+	.28***	.20***	.18	26.29	6.16
SIC	-	-.13**	.07	.06	0.97	0.34
NSA	0	.06	.02	.02	5.03	1.66
OL	+	.21***	.14**	.12	0.20	0.13
SC	0	-.09	-.03	-.02	42.40	48.43

Note: ISK = integrative self-knowledge; GSI = global sense of identity; NFC = need for cognition; REF = reflection; SIC = self-incoherence; NSA = number of self-aspects; OL = role overlap; SC = self-complexity; P = predicted correlation (“+” = positive, “-” = negative, “0” = none); \*\*  $p < .01$ ; \*\*\*  $p \leq .001$

Although the zero-order correlations are instructive, they may be misleading. Therefore, a subsequent regression analysis was performed to examine the independent effects of self-related and cognitive variables on the ISK score. The beta weights (standardized regression coefficients) are reported in table 5. In the regression model, basically all relationships described above held, except for the one between integrative self-knowledge and self-incoherence<sup>2</sup>. Global sense of identity emerged as the strongest (and positive) predictor,  $\beta = .44$ ,  $p < .001$ , followed by reflection, need for cognition, and overlap,  $\beta = .20$ ,  $\beta = .16$ , and  $\beta = .14$ ,  $p < .01$ , respectively. The regression model,  $F(7, 406) = 35.25$ ,  $p < .001$ , accounted for 38% of the variance in the ISK score, with sense of identity explaining almost half (15.1%) of the variance, as reflected by the squared semipartial correlation.

## Discussion

The purpose of the present investigation was to develop and validate the Polish version of the Integrative Self-Knowledge Scale by Ghorbani, Watson, and Hargis (2008). The first part of this paper analyzes the Polish version of the ISK scale with respect to its psychometric properties. A principal components analysis (PCA) yielded three clear components on which items loaded at least .57: a three-item past- and future-oriented self-experience subscale, a four-item present-oriented

<sup>2</sup>Preacher and Hayes’ (2008) macro for SPSS was used to assess the indirect effects of self-incoherence on the ISK scores, with overlap, need for cognition, reflection, and sense of identity as mediating variables (the number of self-aspects and the SC scores were used as covariates). Based on 1000 re-samples and confidence intervals at 95%, the results showed that the total indirect effect was indeed significant,  $ab = -0.32$ , 95% CI [-0.465, -0.199]. Inspection of the specific indirect effects revealed that need for cognition,  $ab = -0.08$ , 95% CI [-0.127, -0.038], reflection,  $ab = -0.05$ , 95% CI [-0.098, -0.017], and sense of identity,  $ab = -0.18$ , 95% CI [-0.296, -0.084], significantly uniquely mediated the association between self-incoherence and integrative self-knowledge.

self-experience subscale, and a five-item present- and past-oriented self-experience subscale. A confirmatory factor analysis (CFA) performed on these 12 items indicated that a three-factor solution provided the best fit to the data, as evidenced by several goodness of fit standards. Cronbach's alpha coefficients for the subscales varied from  $\alpha = .71$  (past- and future-oriented self-experience) to  $\alpha = .80$  (present- and past-oriented self-experience); for the overall scale, the coefficient alpha was .79. These results indicated good reliability of both: the individual subscales and the ISK scale as a whole.

The second part of the paper deals with the convergent and discriminant validity of the Polish version of the ISK scale. The construct validity was determined by examining whether the scale correlated with self-related and cognitive constructs in theoretically predictable ways. The validity data were consistent with predictions. Integrative self-knowledge scores were positively associated with sense of personal identity, role overlap, need for cognition, and reflection, and were negatively correlated with self-incoherence. These results are consistent with literature and other research suggesting that integrative self-knowledge reflects an adaptive capacity to understand and integrate self-experience (Ghorbani, Watson, Hargis, 2008; Ghorbani et al., 2010).

The data presented here indicate that scores on the Polish version of the ISK scale are reliable and valid indicators of a temporally integrated self-knowledge. Accordingly, the scale should prove to be useful for researchers interested in investigating individual differences in self-reflective tendencies.

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#### **Appendix 1. Sample items from the Polish ISK scale**

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##### Sample items

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1. Jeśli głęboko zastanowię się nad sobą, mogę odkryć, czego naprawdę chcę w życiu i jak mogę to osiągnąć
  2. To, czego w przeszłości nauczyłem/-am się o sobie, pomogło mi lepiej reagować w trudnych sytuacjach
  4. Kiedy mam jakiś osobisty problem, tak bardzo mnie pochłania, że nie potrafię nabrać dystansu i sprawdzić, co dokładnie myślę i czuję
  5. Zwykle tak mocno angażuję się w to, co się właśnie dzieje, że tak naprawdę nie widzę, jak reaguję
  8. Często moje uczucia związane z jakimś doświadczeniem są tak złożone i sprzeczne, że nawet nie próbuję ich rozumieć
  12. Kiedykolwiek próbuję przeanalizować, w jaki sposób przyczyniłem/-am się do powstania jakiegoś problemu, gubię się
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WŁAŚCIWOŚCI PSYCHOMETRYCZNE I WALIDACJA  
POLSKIEJ WERSJI SKALI INTEGRACYJNEJ SAMOWIEDZY

**Streszczenie.** Artykuł przedstawia polską wersję Skali Integracyjnej Samowiedzy (ISK), służącej do pomiaru różnic indywidualnych w tendencji do angażowania się w poznawczy proces integrowania samodoświadczenia na przestrzeni czasu. W pierwszej części artykułu zaprezentowano właściwości psychometryczne polskiego tłumaczenia. Analiza czynnikowa, zarówno eksploracyjna, jak i konfirmacyjna, wykazała, że skala ma strukturę trójczynnika. Analiza rzetelności, przeprowadzona przy wykorzystaniu testów współczynnika  $\alpha$ -Cronbacha oraz mocy dyskryminacyjnej pozycji, potwierdziła zgodność wewnętrzną skali. W drugiej części artykułu zamieszczono dane weryfikujące trafność teoretyczną narzędzia. Analizy korelacyjne i regresyjne ujawniły, zgodnie z oczekiwaniami, że ISK koreluje pozytywnie ze wskaźnikami spójności w obszarze Ja (tj. silnym poczuciem tożsamości i wzajemnym powiązaniem ról) oraz aktywnym przetwarzaniem poznawczym (tj. potrzebą poznania i refleksyjnością), a ujemnie łączy się ze zróżnicowaniem koncepcji siebie. Całość uzyskanych rezultatów wskazuje na udany przekład oryginalnej skali.

**Słowa kluczowe:** integracyjna samowiedza, tożsamość, spójność Ja, pomiar

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