Personal growth initiative's relation to life meaning and satisfaction in a polish sample

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Abstract

This study aimed to develop and validate a Polish version of the Personal Growth Initiative Scale - II (PGIS-II; Robitschek et al. *Journal of Counseling Psychology*, 59(2), 274–287, 2012). The PGIS-II assesses skills for intentional cognitive, behavioral, or affective change in one's life. These skills may promote positive mental health (Robitschek and Hershberger *Journal of Counseling & Development*, 83(4), 457–469, 2005) that could benefit Polish individuals following cultural and political transformation since the late 1980's when Poland regained sovereignty from communism (Muszczyński 2015). The second aim of this study was to verify the hypothesis that Personal Growth Initiative (Robitschek *Measurement and Evaluation in Counseling and Development*, 30, 183–198, 1998, *Measurement and Evaluation in Counseling and Development*, 31, 197–210, 1999) may be related to life satisfaction indirectly via presence of meaning in life. Participants were 530 Polish citizens (65.1% female) aged 15–84. Participants completed the PGIS-II (Polish version) and measures to assess construct validity. Confirmatory factor analysis supported a 4-factor structure similar to the original PGIS-II structure, with slight differences in item loadings. Internal consistency estimates for the scale and subscales were adequate to strong. PGIS-II (Polish version) scores correlated positively with measures of well-being, providing evidence for concurrent validity of the scale. There was a significant indirect effect of PGI's relationship with life satisfaction via presence of meaning in life. The Polish version of the PGIS-II shows sound psychometric properties and may be used with Polish populations.

Keywords Personal growth initiative · Presence of meaning of life · Validation · Measurement

Many therapies emphasize the importance of continued growth throughout life and its importance for healthy functioning (Robitschek 1998). When change is intentional, people are aware of what they are changing and steps taken in the process (Robitschek 1998). Prochaska and DiClemente (1986) emphasized the importance of intentionality and being aware of what stage of the change process one is in. Moreover, individuals more engaged and intentional in the personal growth process are better equipped to handle challenges as they arise (DeCarvalho 1990). Personal Growth Initiative (PGI;

Robitschek 1998, 1999) is a skillset that may be used to create this intentional growth across cultures and life domains. One goal of this paper was to examine PGI in the Polish population. Poland has been impacted by significant societal and cultural changes following the fall of Communism in 1989, as well as Poland's accession to the European Union in 2004, resulting in increased levels of stress, anxiety, and depression among Poles (Zajenkowska 2016). This increase in change-related distress is paired with a lowered desire among Poles to engage in personal growth because of fear of the need for change being viewed as a personal deficit (Muszczyński 2015), necessitating a need to better understand PGI in the Polish population.

Research suggests that people with well-developed PGI skills may be more likely to seek out help when dealing with a personal struggle than people with poorly developed PGI skills (Klockner and Hicks 2008). Individuals with more developed PGI skills are not only more aware of their development over time, but also proactive in the change process, intentionally seeking out opportunities for personal development and improvement, which may include a greater

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willingness to participate in change programs and interventions involving growth and learning. In addition, individual differences in PGI skills have been found to be positively related to the therapeutic process (Robitschek and Hershberger 2005). Patients with well-developed PGI skills are also more likely to be in the action stage of change and thus, may be better able to make a plan and take specific action to resolve their problems than their peers with poorly developed PGI skills (Robitschek and Hershberger 2005).

PGI skills are positively related to healthy psychological functioning and negatively related to psychological distress (Robitschek and Keyes 2009; Weigold et al. 2013; Yang and Chang 2016). For example, in a partial hospital program, patients with depressive disorders who experienced reliable and clinically significant improvement in their PGI skills during treatment also experienced the greatest reduction in depressive symptoms after accounting for baseline depressive symptoms (Robitschek et al. 2016). Given these potential benefits of PGI in treatment, it is important to note that PGI is a skillset that can be learned by patients seeking help (Robitschek et al. 2012). Indeed, there is evidence that PGI skills can be improved through interventions (Meyers et al. 2015; Thoen and Robitschek 2013). In light of these findings, it appears that PGI skills could be an important factor to consider when guiding patients through the change process.

Assessment of Personal Growth Initiative

Personal growth initiative refers to skills used when one is actively engaged in the process of cognitive, behavioral, or affective change (Robitschek et al. 2012). The original Personal Growth Initiative Scale (PGIS; Robitschek 1998, 1999) was developed from an outcome measure for a wilderness program involving adults going through a crisis or transition and wanting to grow and change in positive ways (Robitschek 1998). Items for the PGIS were generated with this population in mind. Therefore, some items in the PGIS were not specific to intentional growth or pertinent across all life domains. Additionally, the PGIS was unidimensional despite theoretical claims of cognitive and behavioral components in PGI (Robitschek et al. 2012).

The Personal Growth Initiative Scale-II (PGIS-II) was developed to address the limitations of the PGIS while maintaining its strengths (Robitschek et al. 2012). All items generated in the development of the PGIS-II were derived from PGI theory and made applicable to all life domains. Moreover, the PGIS-II is multidimensional. Four factors were found for the PGIS-II in student and community samples: two cognitive factors (i.e., Readiness for Change, Planfulness) and two behavioral factors (i.e., Using Resources, Intentional Behavior).

Readiness for Change is the ability to identify what can be changed in the self and when it is time to make that change. Planfulness refers to the ability to plan steps for this change. Using Resources is the ability to identify and use assets outside of oneself that help promote personal growth. Resources could be material (e.g., books, classes) or human (e.g., parents, friends). Finally, Intentional Behavior comprises skills used to put the previous steps into action and intentionally make the proposed change (Robitschek et al. 2012).

The PGIS-II has shown evidence of acceptable internal consistency in the total scale ($\alpha = .90$ to $.94$) and each of the subscales ($\alpha = .73$ to $.91$) and evidence of convergent and discriminant validity in U.S. community and student samples (Robitschek et al. 2012). The PGIS-II has been translated and validated into several languages including Turkish (Yalçın and Malkoç 2013), Chinese (Yang and Chang 2014), and Japanese (Tokuyoshi and Iwasaki 2014) that have confirmed an acceptable four-factor structure.

Scale Translation and Validation

Translations of psychological instruments represent a cornerstone of culturally sensitive research in mental health (Rogler 1989). It has been suggested that PGI is a culturally universal construct (Robitschek 2003). PGI is important to consider in the Polish population, as Poles may not have a long-standing tradition of engaging in intentional personal growth as it is defined. This may be explained by the influence of Communist rule in the country until 1989, as well as the post-Communist patriarchal structures and ideologies that remained in the decades to follow (Moghaddam 1996). Poles may be hesitant to reflect on and engage in the process of personal change, in fear of the need for change being viewed as a mental health disorder or personal weakness (Muszczyński 2015). In other words, engagement in personal growth among Poles may be stigmatized due to its association with potential character deficits and help-seeking, rather than an opportunity for self-improvement (Zajenowska 2016).

Development of PGI skills in the Polish population could lead individuals to become more active participants in promoting one's mental health, use more active coping strategies and be more likely to see challenges as opportunities for growth and personal development (Hardin et al. 2007; Robitschek and Cook 1999; Robitschek and Hershberger 2005). Although the original PGIS has been translated into Polish (Konkel et al. 2014), the PGIS-II has not been. The first aim of this study was to translate the PGIS-II into Polish and to subsequently validate the PGIS-II in a Polish population. We assessed validity of the factor structure, internal consistency, and concurrent validity by examining its correlation with measures of

well-being and mental health. Specifically, PGI skills have been positively related to life satisfaction and psychological well-being (Robitschek and Keyes 2009), and inversely related to distress (Robitschek and Kashubeck 1999) in American samples; we hypothesized that these relationships would hold in the Polish population.

In addition, we wished to assess any differences in PGI skills between men and women and across age groups in a Polish population. Previous research with American populations (Robitschek 1998; Robitschek et al. 2012) suggests that men and women do not differ significantly in levels of PGI skills. However, Polish men scored significantly higher than Polish women on the original PGIS (Konkel et al. 2014). Given the inconsistent results, no hypothesis about PGIS-II (Polish version) scores and gender was made. In regard to age, no significant differences in PGI skills have been noted across age groups (Robitschek 1998). Therefore, no hypothesis was made about the relationship between PGIS-II (Polish version) scores and age. Due to the fact that our sample consisted mostly of young people who had not experienced communist rule, we wished to explore these relationships.

PGI and Well-Being

The second aim of this study was to further assess validity evidence of the PGIS-II (Polish version) by examining a tenet of PGI theory—the relationship of the PGI skillset with components of well-being, namely satisfaction with life and meaning in life. Research has examined PGI's relationship with satisfaction with life (e.g., Robitschek and Keyes 2009), but there has been little attempt to explain this relationship. It has been established, in United States samples, that the presence of meaning in life is associated with satisfaction with life; longitudinal studies suggest that meaning in life precedes life satisfaction (Park et al. 2010; Steger and Kashdan 2007). There is reason to believe that learning and using PGI skills could develop this sense of meaning in life, as PGI stems from a humanistic approach (Robitschek 1998) that focuses on creating life meaning through personal growth rather than only avoiding distress (Steger et al. 2006).

Meaning in life appears to be a cornerstone of a healthy life and personality including satisfaction with one's life (Steger et al. 2006). Developing meaning in life can be a difficult process that requires continued striving toward personal growth, reacting favorably to adversity, and building a coherent narrative of previous attempts at growth—all hallmarks of PGI (Hardin et al. 2007; Thoen and Robitschek 2012). A skillset that facilitates personal growth (i.e., PGI) could lead to perceptions of meaning in life which could subsequently lead to greater life satisfaction. Thus, we also tested the

relationship of individual differences in the PGI skillset with meaning in life, and we tested if the PGI skillset would have a significant indirect effect on satisfaction with life via presence of meaning in life. Research suggests that only presence of meaning, and not the search for meaning, is associated with life satisfaction. This may be due to the fact that searching for meaning, if one does not already possess it, can be a challenging and frustrating process (e.g., Park et al. 2010). In light of these findings, we tested an indirect effect model using presence of meaning in life.

Method

Participants

Participants were 530 Polish citizens (65.1% female) aged 15–84 ($M = 27.83$, $SD = 12.18$), with 27.9% students. In this sample, 30.5% of participants completed primary education, 23.6% completed secondary education, 44.5% completed higher education, and 1.3% attained technical/vocational education. All participants were Polish speakers.

Language Translation

The PGIS-II was translated to Polish using the forward-backward translation method (World Health Organization n.d.). A bilingual (Polish and English) psychologist-in-training translated the PGIS-II into Polish, with feedback from another bilingual psychologist. Next, a bilingual person, who was not a psychologist and not familiar with the original version of the PGIS-II was identified for back-translation into English. Involving a non-psychologist was beneficial in that this person provided a lay perspective on the content of the items, which is similar to the perspectives of people taking the PGIS-II. In the third step, the English back-translated version was sent to the scale developer to determine if the items were faithful to the meaning of the original items. The final version of the PGIS-II in Polish can be found in Appendix 1.

Procedure

Data for 173 of the participants were collected through online snowball sampling. The rest of the data was collected from participants through in-person surveys collected on and near college campuses and in three manufacturing corporations. The only requirement was voluntary participation. The participants were informed that their participation would be anonymous. To reduce participant burden, the data were collected from 6 different surveys. That is, each participant completed

the PGIS-II Polish version and a subset of the measures used to assess concurrent validity. Therefore, sample sizes differ among analyses. Six psychology assistants (graduate students) helped to collect the data. There was no compensation for participation.

Measures

Personal Growth Initiative Scale-II (PGIS-II; Robitschek et al. 2012) The PGIS-II is a 16-item scale that measures personal growth initiative skills (Robitschek 1998, 1999). Participants rate their agreement with each statement on a scale of 0 (*disagree strongly*) to 5 (*agree strongly*).

The PGIS-II is composed of four subscales: Readiness for Change, Planfulness, Using Resources, and Intentional Behavior. Subscale scores are calculated as the average of the items on that subscale. The total scale score is the average of subscale scores. The translated PGIS-II (Polish version; see Appendix 1) was completed by all participants. The English PGIS-II can be seen in Appendix 2.

Depression Anxiety Stress Scales – 21 (DASS – 21; Lovibond and Lovibond 1995) The Polish adaptation (Makara-Studzińska et al. n.d.) is a 21-item scale measuring depression, anxiety, and stress symptoms over the past week. Responses range from 0 (*did not apply to me at all*) to 3 (*applied to me very much or most of the time*). It consists of three subscales: Depression, anxiety, stress. The DASS-21 was completed by 71 participants. Cronbach's alphas for this study were .93 for the overall scale and ranged from .81 to .88 for the subscales.

Scales of Psychological Well-Being (SPWB; Ryff and Keyes 1995) The Polish version (Cieciuch 2011) contains 84 items that measure six types of psychological well-being: Autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. Participants rate their agreement with statements on a scale ranging from 1 (*strong disagreement*) to 6 (*strong agreement*). The SPWB was completed by 67 participants. Cronbach alphas for this study for the individual scales ranged from .80 to .91.

Satisfaction with Life Scale (SWLS; Diener et al. 1985) The Polish version (Juczyński 2001) is a 5-item measure of global satisfaction with life. Responses range from 1 (*strongly disagree*) to 7 (*strongly agree*). The SWLS was completed by 100 participants. The Cronbach alpha of the SWLS for this study was .70.

Meaning in Life Questionnaire (MLQ; Steger et al. 2006) The Polish version (Kossakowska et al. 2013) is a 10-item measure

of presence and searching of meaning in life. Responses range from 1 (*absolutely untrue*) to 7 (*absolutely true*). The MLQ was completed by 100 participants. Cronbach alphas in the current sample were .78 for presence of meaning and .78 for searching for meaning.

Results

Analytic Procedure

Factor structure of the PGIS-II (Polish version) was assessed by confirmatory factor analysis (CFA) with maximum likelihood estimation with robust standard errors and a mean-adjusted χ^2 statistic test using Mplus version 7 (Muthen and Muthen 2006). Each item was allowed to load on only one factor (Readiness for Change, Planfulness, Using Resources, and Intentional Behavior); factors were allowed to covary.

Hu and Bentler's (1999) criteria for assessing model fit, were used, specifically, chi-square (χ^2), root mean square error of approximation (RMSEA), and comparative fit index (CFI). A non-significant value of χ^2 implies an acceptable fit; however, due to χ^2 being heavily influenced by a large sample size, supplemental goodness of fit tests are provided. RMSEA values $\leq .05$ indicate close approximate fit, between .05 and .08 indicate fair fit, between .08 and 0.10 indicate mediocre fit, and $\geq .1$ suggest unacceptable fit (Browne and Cudeck 1993; Schweizer 2010). A CFI $> .95$ suggests acceptable fit (Hu and Bentler 1999; Schweizer 2010).

When the model did not fit the data well, the data were randomly divided into two groups. An exploratory factor analysis (EFA) with oblique rotation (direct OBLIMIN) was conducted on group 1 data to determine a model that would fit the data best. We examined the data with 1-, 2-, 3-, 4-, and 5-factor models. The model which appeared to fit the data best, based on recommendations of Preacher et al. (2013), was then used to conduct a final CFA using group 2 data.

Descriptive statistics were calculated for the total PGIS-II (Polish version) scores and the subscales; gender differences in means were examined. Bivariate correlations were calculated to examine relationships between PGI skills and measures of well-being and distress.

Finally, a path model was fit to examine if there was an indirect effect of overall PGI skill level on life satisfaction via presence of meaning in life. Specifically, life satisfaction and presence of meaning in life were regressed onto overall PGI scores; life satisfaction was also regressed onto presence of meaning in life. The indirect effect was calculated with the product of coefficients method (MacKinnon 2000). Statistical significance was assessed using bootstrapped standard errors (5000 bootstraps) and

their appropriate bias-corrected, asymmetric confidence intervals (MacKinnon et al. 2004).

In addition, because the current study is cross-sectional, we fit two plausible alternative indirect effect models—as is recommended in cross-sectional designs (Gelfand et al. 2009)—of PGI skills having an indirect effect on presence of meaning in life via life satisfaction and of meaning in life having an indirect effect on life satisfaction via PGI skills.

Missing Data

In cases for which at least 75% of responses were provided for a given scale or subscale missing data were imputed using participant mean substitution (Dodeen 2003). No cases were dropped from the analysis.

Structure of Personal Growth Initiative

Fit indices of confirmatory and exploratory factor analyses are presented in Table 1. Sample size was deemed appropriate for each analysis (see Kahn 2006). Results of the first CFA (CFA 1; $N = 530$) suggest that the model did not fit our data well, with RMSEA = .14 and CFI = .91. Interfactor correlations ranged from .37 to .93. There were multiple modification indices >10 for cross-loadings of items on different factors.

Following poor model fit obtained in CFA 1, we conducted the EFA on group 1 data (EFA 1; $N = 265$). The best EFA model is considered to be one that has a balance of goodness of fit and parsimony and one that may be most generalizable (Preacher et al. 2013). Model fit became acceptable at the level

of a 3-factor model, with RMSEA = .08 and CFI = .97. Model fit improved in the 4-factor model (RMSEA = .07, CFI = .99) and 5-factor model (RMSEA = .05, CFI = .99). More items loaded significantly on two or more factors in the 3-factor and 5-factor model than in the 4-factor model. Overall, although the 5-factor model appeared to have best goodness of fit based on RMSEA and CFI, the 4-factor model proved to be more parsimonious (specifying less covariance between factors) than the 5-factor model. Moreover, the factorial structure of the 4-factor model was in agreement with PGI theory and comparable to that of the structure proposed in the original PGIS-II despite slight differences in item loadings. Item 2 (“I can tell when I’m ready to make specific changes in myself”) loaded on Planfulness in this study whereas it loaded on Readiness for Change in the original PGIS-II. In addition, Item 12 (“I use resources when I try to grow”) loaded on Intentional Behavior in the current study whereas it loaded on Using Resources in the original PGIS-II. Based on these considerations, the 4-factor model was retained.

A final CFA (CFA 2; $N = 265$) was then conducted on group 2 data to confirm the modified 4-factor structure identified through EFA. This model showed acceptable fit to the observed data, with RMSEA = .09 and CFI = .96. Correlations among the 4 latent factors ranged from .34 to .90 which is similar to correlations found in the original scale tested in a community sample (Robitschek et al. 2012). Similar to prior research (e.g., Robitschek et al. 2012) the largest interfactor correlation ($r = .90$) was between the Readiness for Change and Planfulness factors. Although this very high interfactor correlation warrants consideration of the possibility that these two factors are not meaningfully distinct, they were retained as separate factors due to the clinical utility of their distinction. Specifically, the ability to identify a personal growth goal (i.e., Readiness for Change) is importantly different from the ability to know how to reach that goal (i.e., Planfulness). This is addressed further in the Discussion. The final model for group 2 is depicted in Fig. 1.

Reliability of PGIS-II (Polish Version)

Cronbach’s alpha coefficients for each subscale and the total score of PGIS-II (Polish version) are presented in Table 2. All coefficients are considered satisfactory.

Concurrent Validity

Descriptive statistics for variables used in the concurrent validity analyses can be seen in Table 2. Correlations between the scales of the Polish PGIS-II and DASS-21,

Table 1 Fit indices of the CFAs and EFAs for PGIS-II (PL)

CFA 1				
$N = 530$				
Model	df	χ^2	RMSEA	CFI
1	98	1050.82*	.14	.91
EFA				
$N = 265$				
Model	df	χ^2	RMSEA	CFI
2 (1-factor)	104	996.09*	.18	.83
3 (2-factor)	89	404.50*	.12	.94
4 (3-factor)	75	208.85*	.08	.97
5 (4-factor)	62	139.62*	.07	.99
6 (5-factor)	50	83.39*	.05	.99
CFA 2				
$N = 265$				
Model	df	χ^2	RMSEA	CFI
7 (4-factor)	98	320.15*	.09	.96

* $p < .001$

Fig. 1 Four-factor structure of the Polish PGIS-II with item loadings and interfactor correlations for Group 2 ($N = 265$)

SPWB, SWLS, and MLQ assessed concurrent validity (see Table 3). Significant negative correlations were expected between the Polish PGIS-II and DASS-21; significant positive correlations were expected for PGIS-II (Polish version) with SPWB, SWLS, and both MLQ subscales. Contrary to hypothesis, PGIS-II (Polish version) was not found to correlate significantly with depression, anxiety, or stress. Further examination of the DASS-21 responses suggested a floor effect, with unusually low means for the depression ($M = 4.09$; $SD = 4.27$), anxiety ($M = 3.28$; $SD = 4.34$), stress ($M = 6.46$; $SD = 5.11$), and total ($M = 13.82$; $SD = 12.02$) scale scores. As hypothesized, PGIS-II (PL) scores were significantly positively correlated with SWLS and all subscales of SPWB. Significant positive correlations were found between both searching and presence of meaning in life and the Polish PGIS-II total score and IB. Presence of meaning in life was also significantly related to PL while searching for meaning was also significantly related to RC.

No significant differences were found between men and women ($ps > .05$) on any of the Polish PGIS-II subscales or total scale. Significant positive relationships were found, however, for age with Using Resources and Polish PGIS-II total scale scores (see Table 3), suggesting that participants' PGI skills, primarily ability to use resources may increase slightly with age.

Table 2 Descriptive statistics and internal consistency estimates for the scales in the study

	Mean	SD	α
Readiness for Change	3.44	0.87	.72
Planfulness	3.52	0.84	.87
Using Resources	2.95	1.16	.81
Intentional Behavior	3.58	0.87	.85
PGIS-II (PL) Total	3.37	0.72	.91
DASS-21 Total	13.82	12.02	.93
Depression	4.09	4.27	.88
Anxiety	3.28	4.34	.81
Stress	6.46	5.11	.88
SWLS	19.09	5.04	.70
SPWB Total	25.49	3.25	
Environmental Mastery	4.23	0.63	.84
Autonomy	4.08	0.63	.80
Personal Growth	4.27	0.66	.86
Positive Relations with Others	4.41	0.73	.88
Purpose in Life	4.37	0.62	.83
Self-Acceptance	4.14	0.75	.91
MLQ-Presence of Meaning	22.70	6.02	.78
MLQ-Searching for Meaning	24.65	4.31	.78

PGIS-II (PL) Polish version of the Personal Growth Initiative Scale-II, *DASS-21* Depression, Anxiety, and Stress Scales-21, *SWLS* Satisfaction with Life Scale, *SPWB* Scales of Psychological Well-Being, *MLQ* Meaning in Life Questionnaire

Testing Indirect Effects

All coefficients for the following models are standardized estimates. The initial model (see Fig. 2) of an indirect effect of PGI on life satisfaction via presence of meaning in life yielded a statistically significant indirect effect, $ab = .122$, 95% CI = (.04, .24). In this model, the direct effect of PGI on life satisfaction was not statistically significant, $c' = .128$, 95% CI = (-.11, .38) —this suggests that there was a full indirect effect of PGI on life satisfaction via presence of meaning in life. PGI and presence of meaning in life combined to explain 19.2% of the variance in life satisfaction. PGI explained 10.3% of the variance in presence of meaning in life.

In the first alternative model of PGI having an indirect effect on presence of meaning in life via life satisfaction, the indirect effect was statistically significant, $ab = .09$, 95% CI = (.01, .20). In this model, the direct effect of PGI on presence of meaning in life was also statistically significant, $c' = .23$, 95% CI = (.04, .39) — this suggests that there was a partial indirect effect of PGI on presence of meaning in life via life satisfaction. PGI and life satisfaction combined to explain

Table 3 Bivariate correlations of validation measures, demographic variables, and PGIS-II (PL)

	RC	PL	UR	IB	PGIS
DASS-21 (N = 79)	.10	.01	<.01	-.02	.03
Depression	-.05	-.11	-.03	-.17	-.12
Anxiety	.18	.10	.02	.11	.13
Stress	.12	.04	.01	.01	.06
SWLS (N = 100)	-.03	.18	.29**	.16	.24*
SPWB (N = 76)	.54***	.56***	.44***	.29*	.55***
Environmental Mastery	.37**	.39**	.31**	.16	.36**
Autonomy	.30**	.28**	.39**	.13	.33**
Personal Growth	.58***	.65***	.47***	.32**	.60***
Positive Relations	.37**	.36**	.20	.31**	.37**
Purpose in Life	.54***	.53***	.42***	.24*	.52***
Self-Acceptance	.47***	.50***	.38**	.26*	.48***
MLQ (N = 100)					
Presence	.17	.41***	.06	.38***	.32**
Searching	.23*	.21	.19	.29*	.31**
Demographics					
Age (N = 520)	.02	.08	.16***	-.01	.09*

RC Readiness for Change, PL Planfulness, UR Using Resources, IB Intentional Behavior, PGIS PGIS-II (PL) Total, DASS-21 Depression, Anxiety, and Stress Scales-21, SWLS Satisfaction with Life Scale, SPWB Scales of Psychological Well-Being, Positive Relations Positive Relations with Others, MLQ Meaning in Life Questionnaire

* $p < .05$, ** $p < .01$, *** $p < .001$

22.6% of the variance in presence of meaning in life. PGI explained 6.2% of the variance in life satisfaction.

In the second alternative model of presence of meaning in life having an indirect effect on life satisfaction through PGI, the indirect effect was not statistically significant, $ab = .04$, 95% C.I. = $(-.03, .16)$. In this model, the direct effect of presence of meaning in life on life satisfaction was statistically significant, $c' = .38$, 95% C.I. = $(.18, .55)$. Presence of meaning in life and PGI combined to explain 19.2% of the variance

in life satisfaction scores. Presence of meaning in life explained 10.3% of the variance in PGI.

Discussion

The aims of the current study were to develop a Polish version of the PGIS-II, to be available for use in the Polish scientific community and with Polish populations, and to examine the relation of PGI with satisfaction with life and meaning in life. After translating the scale, we assessed the psychometric properties of the Polish PGIS-II including validity of the factor structure, internal consistency, and concurrent validity of the Polish PGIS-II. We then assessed if there was an indirect effect of PGI on life satisfaction via presence of meaning in life.

We confirmed a four-factor structure of the PGIS-II (Polish version), although two items (2 and 12) loaded on factors that are different from the original factor loadings. Item 2 (“I can tell when I’m ready to make specific changes in myself”) loaded on Readiness for Change in the original PGIS-II; however, in this study it loaded on Planfulness. Perhaps this is not surprising, as both Readiness for Change and Planfulness reflect cognitive processes, and it is plausible that recognizing that a change needs to occur is the first step in the process of planning a change. Also, there is important clinical utility in retaining separate subscales for Readiness for Change and Planfulness. In the transtheoretical model of behavior change (Prochaska and DiClemente 1986), the Contemplation stage is characterized by awareness of a need to grow or change but without commitment to this growth or action directed toward making the change. Readiness for Change skills are required in the Contemplation stage of change. In contrast, the Preparation stage in the transtheoretical model is characterized by intention to take specific actions in the growth and change process. To have intention to take specific actions in the service of personal growth, one must have

Fig. 2 Path diagram of the indirect effect of personal growth initiative on satisfaction with life. Values in parentheses for the path from PGI to SWL are for the direct effect when MLQ is not included in the model. PGI =

personal growth initiative; MLQ – Presence = presence of meaning in life; SWL = satisfaction with life

identified a personal growth goal (i.e., Readiness for Change) and formulated a plan of action to reach this goal, that is, utilized Planfulness skills. Therefore, although it appears likely for people in the Preparation stage to report utilization of both Readiness for Change and Planfulness skills, people in the Contemplation stage might only be using Readiness for Change skills. There is clinical utility in distinguishing which PGI skills a person is using for a specific personal growth domain. This information may provide important clues regarding the individual's current stage of change in that domain, which has important implications for selecting subsequent intervention.

Item 12 (“I use resources when I try to grow”) loaded on Using Resources in the original PGIS-II; however, in a Polish population it loaded on Intentional Behavior. This may be due to the fact that the word “resources” (*zasoby*) is used in item 12, and “help” (*pomoc*) is used in the two remaining items (6 and 14) that constitute the Using Resources subscale. In the Polish language, the word “resource” may be more commonly interpreted as something that is material or tangible (e.g., money, services) and, in turn, something that may need to be sought out actively. The word “help”, on the other hand, may be interpreted as something that is received without as much effort (e.g., support of a friend). Therefore, the wording of item 12 may be more representative of intentional behavior to a Polish reader, since a “resource” may appear to require more intentional pursuit than “help”. Moreover, both Using Resources and Intentional Behavior subscales reflect behavioral components in PGI, which may explain why item 12 may manifest as Intentional Behavior.

Importantly, researchers must note that subscale scores are to be calculated differently for the Polish PGIS-II since item 12 loaded on the Intentional Behavior factor (not Using Resources) and item 2 loaded on the Planfulness factor (not Readiness for Change; see Fig. 1). Item responses are still averaged to form subscale scores, but with the following items on each scale: Readiness for Change: items 8, 11, and 16; Planfulness: 1, 2, 3, 5, 10, and 13; Using Resources: items 6 and 14; and Intentional Behavior: 4, 7, 9, 12, and 14. The four subscale scores are then averaged to obtain the total PGI score. With these subscale score calculations, the PGIS-II (Polish version) exhibited good (Readiness for Change) to excellent (Total PGI) internal consistency (see Table 2).

Because item 12 loaded on Intentional Behavior rather than Using Resources, this left the factor of Using Resources with two items. A factor that is

represented by two items may raise some concern; however, according to Kenny (2011), the minimum number of indicators for factor identification is two, so long as the errors of these indicators are uncorrelated and the items correlate with other factors in the model. Therefore, the two items that assess using resources are acceptable for this model. Another noteworthy observation is that item 14 loads on the factor of Using Resources with a coefficient that is greater than 1 (i.e., 1.04). According to Joreskog (1999), standardized loadings may be greater than 1, and do occur, with correlated factors, indicating that this should not pose a problem for the model.

The study yielded mixed findings for concurrent validity of the Polish PGIS-II. As hypothesized, PGI was positively related to satisfaction with life and psychological well-being.

Overall PGI scores were related to both presence and search for meaning in life. In a previous study on meaning in life in Poland (Kossakowska et al. 2013), search for and presence of meaning were positively correlated with each other, in contrast to a study assessing an American sample, in which Steger and colleagues (2008) found a negative correlation between these subscales. Kossakowska et al. (2013) suggested that both presence and search for meaning are beneficial for a Polish sample, because they are positive tendencies that may predispose an individual to personal growth. In other words, individuals with well-developed PGI skills may be more likely to both search for, and also to perceive the presence of, meaning in their lives; this may be specific to the Polish population.

Contrary to hypotheses, there was a lack of significant correlations between PGI scores and scores of depression, anxiety, and stress as assessed by the DASS-21. Based on previous research in an American sample (Robitschek and Kashubeck 1999), PGI was expected to correlate negatively with measures of depression, anxiety, and stress. These inconsistent findings may be due to a likely floor effect on the DASS-21 measure in this sample (i.e., endorsement of unusually low levels of depressive, anxiety, and stress symptoms). Because the Polish translation of the scale has not been validated with a Polish population, it is not known whether this scale accurately captures depressive, anxiety, and stress symptoms among Poles. Therefore, readers are encouraged to interpret this finding with caution. Further, Polish individuals' PGI levels do not appear to differ by gender; however, our findings suggest that PGI and ability to use resources may increase with age, in contrast to past findings of no differences in PGI levels

across age groups. This finding may be unique to the Polish population. It could also be explained by the sample, which consisted of mostly young people who did not directly experience the stress of the fall of the communist regime; instead, they participated in the political, economic, and social transformations which are the consequences of the rising new democracy. Although these experiences are perceived as primarily positive, the implementation of democratic institutions and procedures, creation of a free market based on private property, changes in the social mindset, and acceptance of new rules of the game are still stressful challenges for young people in Poland who have poor support from an older generation that is still in the process of learning and understanding the new reality in Poland (Gilejko 2009).

Results provided some evidence for an indirect effect of PGI on life satisfaction via presence of meaning in life. A plausible alternative model also yielded a statistically significant indirect effect of PGI on meaning in life via life satisfaction. In this alternative model, the direct effect was also statistically significant, while it was not in the original model. This may mean that the original model is a better model of the present data, although we cannot make any conclusions on this. Because of the cross-sectional nature of the study, no causal or temporal inferences can be drawn from these analyses. However, because of theoretical reasons—discussed in the introduction—and research suggesting that presence of meaning in life precedes life satisfaction (Park et al. 2010; Steger and Kashdan 2007), we believe that the original model of PGI's effect on life satisfaction occurring via presence of meaning in life has merit. Future longitudinal studies should examine if this temporal hypothesis is supported. If it is supported, that could mean that improving one's PGI skills could lead to a more meaningful and satisfying life.

As noted previously, reflection on and engagement in the process of personal change among Poles may be met with a fear of being viewed or judged by others as flawed. This stigma may result in less willingness to engage in intentional self-improvement, or less understanding of what PGI skills are. Continuing to research PGI among Poles and other nationalities will increase our understanding of the different ways in which PGI skills may manifest across cultures. Increased awareness of this construct may result in individuals more actively promoting their mental health and in successfully overcoming challenges that may result in personal development and growth, in particular in a country with changing sociocultural and political norms such as Poland.

Limitations and Future Directions

Due to the fact that only a few instruments were used to assess concurrent validity of the PGIS-II (Polish version), further assessment of convergent and discriminant validity of this measure is warranted. Because the current study focused on a community sample of Poles, we cannot conclude how PGI skills may manifest in clinical samples of Poles. Future research may examine PGI skills and their utility in clinical samples; this would enable us to determine the instrumentality of the scale in tailoring treatment and impacting or improving treatment outcomes. Assessing test-retest reliability, as well as factorial invariance of the scale over time, in future studies will also be important. Finally, the cross-sectional nature of the analyses with meaning in life and life satisfaction preclude us from drawing causal inferences. Future studies should assess longitudinally if current PGI skills predict future presence of meaning in life and subsequent life satisfaction.

Conclusions

Past research has offered evidence for a four-factor structure of PGI skills across cultures. The current study provides both exploratory and confirmatory evidence for a four-factor structure of PGI skills in a Polish population, and suggests that the Polish PGIS-II is a reliable tool with evidence for construct validity and strong internal consistency that is appropriate for use with Poles. Finally, it is plausible that people who regularly utilize the PGI skillset to engage in the process of positive personal change may perceive greater meaning in life and, in turn, experience more satisfaction in their lives.

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Compliance with Ethical Standards

Conflict of Interest All authors declare that he/she has no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and national research committee (No of Consent: 9/IV/11–12, SWPS, Warsaw, 05.23.2012) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

This article does not contain any studies with animals performed by any of the authors.

Informed consent was obtained from all individual participants included in the study.

Appendix 1

Skala Inicjatywy Rozwoju Osobistego –II ©

Przy każdym zdaniu, prosimy zaznaczyć na ile się zgadzasz lub nie zgadzasz z danym stwierdzeniem. Użyj następującej skali:

- 0 = Zdecydowanie nie zgadzam się
 1 = Raczej nie zgadzam się
 2 = Trochę się nie zgadzam
 3 = Trochę się zgadzam
 4 = Raczej zgadzam się
 5 = Zdecydowanie zgadzam się

1. Stawiam sobie realistyczne cele, aby zmienić w sobie to co chcę	0	1	2	3	4	5
2. Jestem w stanie stwierdzić, kiedy jestem gotowy(-a) na wprowadzenie konkretnych zmian w sobie.	0	1	2	3	4	5
3. Wiem, jak stworzyć realistyczny plan, aby się zmienić.	0	1	2	3	4	5
4. Korzystam z każdej okazji do rozwoju jak tylko taka się pojawia.	0	1	2	3	4	5
5. Gdy próbuję siebie zmienić, tworzę realistyczny plan dla swojego rozwoju osobistego.	0	1	2	3	4	5
6. Kiedy próbuję w sobie coś zmienić, korzystam z pomocy	0	1	2	3	4	5
7. Aktywnie działam, aby udoskonalać siebie.	0	1	2	3	4	5
8. Szukam w sobie tego co mogł(-a)bym zmienić.	0	1	2	3	4	5
9. Staram się ciągle rozwijać jako osoba.	0	1	2	3	4	5
10. Wiem, jak stawiać realistyczne cele aby wprowadzić zmiany w sobie samej/samym.	0	1	2	3	4	5
11. Wiem, kiedy powinnam/powinienem wprowadzić konkretną zmianę w sobie samej/samym.	0	1	2	3	4	5
12. Kiedy próbuję się bardziej rozwinać, korzystam z dostępnych zasobów.	0	1	2	3	4	5
13. Wiem, jakie kroki mogę podjąć, aby dokonać w sobie zamierzone zmiany	0	1	2	3	4	5
14. Aktywnie korzystam z pomocy, gdy próbuję się zmienić.	0	1	2	3	4	5
15. Poszukuję nowych możliwości, aby się rozwijać jako osoba.	0	1	2	3	4	5
16. Wiem, kiedy nadchodzi ten czas, kiedy powinnam/powinienem wprowadzić konkretne zmiany w sobie samej/samym.	0	1	2	3	4	5

Appendix 2

Personal Growth Initiative Scale – II © Christine Robitschek, Ph.D.

For each statement, please mark how much you agree or disagree with that statement. Use the following scale:

- 0 = Disagree Strongly
1 = Disagree Somewhat
2 = Disagree a Little
3 = Agree a Little
4 = Agree Somewhat
5 = Agree Strongly

1. I set realistic goals for what I want to change about myself.	0	1	2	3	4	5
2. I can tell when I am ready to make specific changes in myself.	0	1	2	3	4	5
3. I know how to make a realistic plan in order to change myself.	0	1	2	3	4	5
4. I take every opportunity to grow as it comes up.	0	1	2	3	4	5
5. When I try to change myself, I make a realistic plan for my personal growth.	0	1	2	3	4	5
6. I ask for help when I try to change myself.	0	1	2	3	4	5
7. I actively work to improve myself.	0	1	2	3	4	5
8. I figure out what I need to change about myself.	0	1	2	3	4	5
9. I am constantly trying to grow as a person.	0	1	2	3	4	5
10. I know how to set realistic goals to make changes in myself.	0	1	2	3	4	5
11. I know when I need to make a specific change in myself.	0	1	2	3	4	5
12. I use resources when I try to grow.	0	1	2	3	4	5
13. I know steps I can take to make intentional changes in myself.	0	1	2	3	4	5
14. I actively seek out help when I try to change myself.	0	1	2	3	4	5
15. I look for opportunities to grow as a person.	0	1	2	3	4	5
16. I know when it's time to change specific things about myself.	0	1	2	3	4	5

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