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### Meaning-in-life orientations and values in youth: Cross-cultural comparison

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## Developmetrics Meaning-in-life orientations and values in youth: Cross-cultural comparison

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Search for purposes in life and the meaning of life is one of the developmental tasks in youth. The Meaning-in-Life Orientations test (MOL) is often used to assess purposes in life and meaningfulness of life and is often used to compare individuals and groups. It is yet unclear whether this test shows measurement invariance across different countries or not, which was the main object of the current study. First, confirmatory factor analyses were conducted separately for data sets with Russian and Ukrainian students. Second, metric and scalar invariance were tested. Finally, comparisons between Russian and Ukrainian students were made on their scores on the MOL.

**Keywords:** Meaning of life; Purpose in life; The Meaning-in-Life Orientations test; Measurement invariance.

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Youth is marked by developmental theorists as a period in the lifespan when young people search for their identity (Erikson, 1968; Loevinger, 1976), their purpose in life (Damon, Menon, & Bronk, 2003), and their meaning of life (Gorlova, 2011), and their values (Romanyuk, 2008).

The Purpose in Life Test (PIL; Crumbaugh & Maholick, 1964) is a commonly used self-report questionnaire to assess purpose in life and meaningfulness (Yalom, 1980). Previous research suggested internal consistency and validity of the inventory (Crumbaugh, 1977; Shek, Hong, & Cheung, 1987). It was translated, and validated, into Russian and then from Russian to the Ukrainian language. It is known in Russian and Ukrainian as the Meaning-of-Life Orientations test (MOL; Leontiev, 1992; Romanyuk, 2004). The factor structure has been investigated in the Russian version of the test (Leontiev, Kalashnikov, & Kalashnikova, 1993). The correlation between the values range of youth and subscores of the MOL have been confirmed (Romanyuk, 2004). The MOL is often used to compare individuals and groups, but to be valid for this latter purpose the questionnaire must measure identical constructs with the same theoretical structure across different cultural groups. Stated otherwise, the factor structure (i.e., factor loadings, and intercepts) should be identical over different groups, which is called measurement invariance. When measurement invariance is not demonstrated, groups or subjects respond differently to the items. As a consequence factor means cannot reasonably be compared across groups (e.g., Dimitrov, 2010; van de Schoot, Lugtig, & Hox, 2012).

As yet, it is unclear whether the MOL shows measurement invariance across different countries. The first aim of the current study was to test the factor structure in a large sample of Russian and Ukrainian individuals and to examine measurement invariance. The factor structure of the test consists of five subscales: purpose in life; process of life; productivity of life; and two aspects of locus of control. In other words the main question for our analysis was whether subscales of the test measure general meaningfulness of life in the same way in Russia and Ukraine.

## METHOD

### Participants

The sample consisted of 100 Russian students (28% males) and 100 Ukrainian students (46% males). The Russian students were from a large regional capital city whereas the Ukrainian students lived in a small regional capital city. The mean age of both samples was 17.5 years.

Data was collected from first to third year university students, from different departments, using direct contact questionnaires. To recruit these participants a notice was used that included information about the aim and

content of the study. Participants were informed that they could stop participation at any point in the study. In the Ukrainian sample data were collected in 2004 (Romanyuk, 2004), whereas in the Russian sample they were collected in 2011.

## Instruments

The PIL (Crumbaugh & Maholick, 1964) was created on the basis of Frankl's theory of logotherapy and man's aspiration for meaning (Frankl, 1963), and it consists of 20 items rated on a 7-point scale. The MOL (Leontiev, 1992) was validated as the Russian version of the PIL. The MOL was also translated from Russian into Ukrainian, using back translations, by two independent translators and validated on the Ukrainian language (Romanyuk, 2004).

The MOL consists of general measurements of meaningfulness of life, purpose in life, process of life (or interest and emotional intension of life), productivity of life (or satisfaction with self-realization), locus of self-control and locus of control of life. The participants were given two opposing statements and were asked to indicate their answer on a bipolar scale (3 2 1 0 1 2 3). An sample item is as follows: "I have no determinant purposes and intensions in life" and "I have very clear purposes and intensions in life". Participants used 0 when both sentences are equally right for them with 1, 2 or 3 indicating different degrees of agreement with one or other statement of the bipolar pair of items.

These scales were coded into rising and descending asymmetrical scales with 1 to 7 scores. Using Leontiev's manual the individual values of asymmetrical scales were summarized by hand and then one general scale and five subscales were constructed. In this paper we did not analyse how items of the test measure subscales but we used only sum scores of five subscales and wanted to know if they measure the general meaning of life. The Cronbach's alpha per country indicated that the internal consistency was satisfactory ( $\alpha_{\text{Russia}} = .93$ ;  $\alpha_{\text{Ukrain}} = .85$ ).

## Statistical analysis

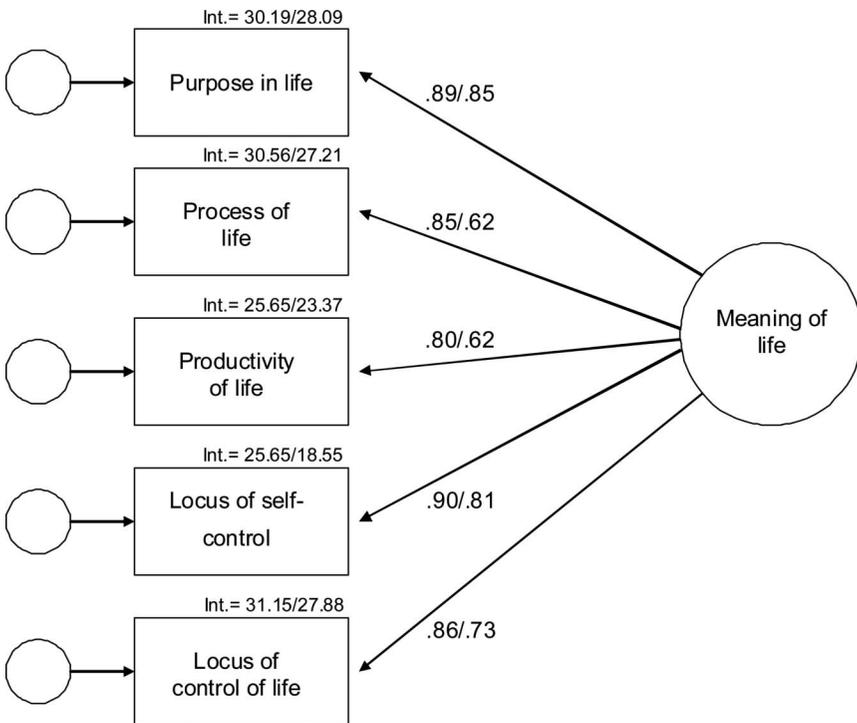
Before it is possible to compare the results across countries, it is important to ensure that the underlying structure is equal across countries. To this aim a measurement invariance procedures as described in van de Schoot et al. (2012) was used (see also Dimitrov, 2010). The first step was to specify the model of the instrument for each country separately using confirmative factor analyses (CFA; configural invariance). The second step was to check if the best fitting factor model was adequate and equal across groups. First, the factor loadings were examined to see if these were equal across groups (metric invariance), and, second, the intercepts were tested to see if they were similar across groups.

For straightforward interpretation of the means, both the factor loadings and intercepts should be similar across groups (scalar invariance).

Single and multiple group confirmatory factor analysis were analysed using the software Mplus 6.11 (Muthén & Muthén, 2010). Full information maximum likelihood estimation was used to deal with missing data (Enders & Bandalos, 2001). To assess model fit, we used the comparative fit index (*CFI*), Tucker–Lewis index (*TLI*), and the root mean square error of approximation (*RMSEA*). Cut-off values for fit were considered adequate if *CFI* and *TLI* values were  $>.90$  and *RMSEA*  $< .08$ . The Bayesian information criterion (*BIC*) was used to compare competing models. A lower *BIC* indicates a better trade-off between model fit and model complexity.

## RESULTS

The CFA model to be estimated is shown in Figure 1 and was analysed for the Russian data set ( $\chi^2 = 12.922$ ;  $p = .024$ ; *CFI* = .981; *TLI* = .963;



**Figure 1.** Factor structure of the Meaning-of-Life Orientations test (MOL).

*Note:* Factor loadings and intercepts (Int.) are presented in the following order: Russia/Ukraine.

$RMSEA = .126$ ) and for the Ukrainian data set ( $\chi^2 = 12.742$ ;  $p = .026$ ;  $CFI = .963$ ;  $TLI = .926$ ;  $RMSEA = .124$ ) separately. The unconstrained intercepts and factor loadings can be found in Figure 1.

In Table 1 the results of the search for measurement invariance are shown. Three models were tested: Model 1 with fixed intercepts but the factor loading were allowed to differ between the countries; Model 2 with fixed factor loadings but the intercepts were allowed to vary between the countries; Model 3: strong measurement invariance (i.e., fixed factor loadings and fixed intercepts). It appeared that Model 3 had the lowest *BIC* value and hence it has the best trade-off between model fit and model complexity. Also, the other fit indices indicated a good fit. This supports measurement invariance across countries.

Comparing the factor means, it appeared that in the Russian sample there was a significantly higher mean than in the Ukrainian sample ( $M_{\text{difference}} = 3.32$ ;  $p < .001$ ). It appeared that females in the Ukraine had a significantly lower score compared to males ( $M_{\text{difference}} = 3.71$ ;  $p = .001$ ), but in Russia they did not have a significantly different score compared to males ( $M_{\text{difference}} = 2.28$ ;  $p = .12$ ).

## DISCUSSION

According to a literature search, this is the first study determining measurement invariance of the Meaning-in-Life Orientations test across Russia and the Ukraine. The current study examined this and proved that measurement invariance held. Having determined measurement invariance future studies will be able to compare the occurrence, determinants, and consequences of the MOL between diverse groups and countries.

From the comparison of means in our analysis, it appeared that Russian students have higher results in meaningfulness of life. That means that they have clear purposes in life, are more interested in the process of life, satisfied with self-realization; believe in themselves and their ability to control life.

Some research claims that the presence of meaningfulness should be associated with positive well-being (Zika & Chamberlain, 1992). That is why

TABLE 1  
Test of measurement invariance of the Meaning-in-Life Orientations test

	$\chi^2$	<i>df</i>	<i>p</i>	<i>CFI</i>	<i>TLI</i>	<i>RMSEA</i>	<i>BIC</i>
Model 1: factor loadings free	49.265	15	<.001	.946	.928	.151	5,824
Model 2: intercepts free	37.129	15	.001	.965	.953	.121	5,812
Model 3: factor loadings + intercepts fixed	43.322	16	<.001	.960	.956	.199	5,802

this difference might be explained by the contrast in the level of social well-being of the Russian and Ukrainian students. Results of a later dissertation on Russian young people demonstrated that youth in this country more positively evaluate their well-being in comparison with their well-being in the past (Simonovich, 2007). As for Ukrainian young people some papers have shown that their general level of social well-being is quite low (e.g., Panina, 2001).

When looking at the Ukrainian sample, the results indicated that there was a difference in the meaning of life between males and females whereas in the Russian sample there was no difference between them. It is again the contrary result to previous research, which showed that these two cultures shared similar values concerning gender roles (Kulik, 1995). Also, resent research, which cited many studies using the PIL, showed the uncertainty of scientists about gender differences in purpose (Damon et al., 2003). An explanation could be that Ukrainian females had more traditional gender attitudes (Shafiro, Himelein, & Best, 2003).

To conclude, the current study made a first step in demonstrating measurement invariance for the Meaning-of-Life Orientations test, indicating that the underlying mechanism is the same across countries. Future research should investigate measurement invariance on the level of the items and over time, for the use of the MOL in developmental research.

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