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Short Form of the Orientations to Happiness Questionnaire for the German-Speaking  
Countries: Development and Analysis of the Psychometric Properties

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## Abstract

This paper addresses the development of a 9-item Short Form of the Orientations to Happiness (OTH) Questionnaire (Peterson, Park, & Seligman, 2005) for German-speaking countries. This questionnaire measures three ways to happiness: life of pleasure, life of engagement, and life of meaning. In Experiment 1 (replication sample,  $N = 1,336$ ), we replicated the three-factor structure found in the 18-item Parent Form. In Experiment 2 (validation sample,  $N = 222$ ), we again replicated the three-factor structure, which showed a good fit to the data. The coefficients of congruence between the three factors in Experiments 1 and 2 were very high (.94–.98). The correlations between the corresponding scales of the Short and Parent Form were high (.49 – .91). The three scales of the Short Form had acceptable internal consistency. The pattern of relationships of both the OTH Short Form and Parent Form with sociodemographic variables, with the endorsement of prototypical behaviors related to the three orientations to happiness, and with meaning in life were very similar for both OTH forms.

**Keywords:** orientations to happiness, positive psychology, well-being, pleasure, engagement, meaning

The different routes that lead to well-being have been the subject of debate since ancient times. With the emergence of *positive psychology*, the scientific study of positive subjective experiences, traits, and institutions (Seligman & Csikszentmihalyi, 2000), the different paths to happiness have become a key research topic. Seligman (2002) proposed three ways to well-being: pleasure, engagement, and meaning. An *orientation to a life of pleasure* (hereafter pleasure), related to hedonism, entails the maximization of pleasure and the minimization of pain (Peterson, Park, & Seligman, 2005). An *orientation to a life of engagement* (hereafter engagement), involves the absorption in engaging activities and experiencing flow (Csikszentmihalyi, 1990). An *orientation to a life of meaning* (hereafter meaning) is related to the Aristotelian notion of eudaimonia, which entails the cultivation of one's virtues and their use in service of a greater good. These orientations to well-being are distinguishable but not incompatible and can, therefore, be pursued concurrently (Peterson et al., 2005).

### **The Orientations to Happiness Questionnaire**

Peterson et al. (2005) developed the Orientations to Happiness (OTH) Questionnaire, an 18-item self-report questionnaire consisting of three scales that measure the extent to which the three ways to happiness (viz., pleasure, engagement, and meaning) are adopted. Using a 5-point Likert scale ranging from 1 (*very much unlike me*) to 5 (*very much like me*), respondents rate the applicability of various statements to themselves. For example, pleasure is assessed with items like "For me, the good life is the pleasurable life"; engagement with items like "I am always very absorbed in what I do"; and meaning with items like "My life has a lasting meaning."

Several studies have found evidence of the OTH Questionnaire's reliability and validity. A three-factor structure was found (Peterson et al., 2005) and replicated across different samples (e.g., Ruch, Harzer, Proyer, Park, & Peterson, 2010). In general, the strongest intercorrelations were found between meaning and engagement and the weakest between meaning and pleasure (e.g., Ruch et al., 2010).

Previous studies have reported that the three scales have satisfactory internal consistency, with  $\alpha$  coefficients between .68 (Proyer, Annen, Eggimann, Schneider, & Ruch, 2012) and .82 (Peterson et al., 2005) for pleasure, between .63 (Ruch et al., 2010) and .74 (Schueller & Seligman, 2010) for engagement, and between .73 (Buschor, Proyer, & Ruch, 2013) and .83 (Park, Peterson, & Ruch, 2009) for meaning. Ruch et al. (2010) found evidence that the scales have temporal stability over a 6-month period, with correlations ranging from .63 to .77.

Moreover, Ruch et al. (2010) found good convergence between peer and self-report scores of the OTH Questionnaire as well as differential relationships between the scales and prototypical activities that were congruent with the content of each of the three scales. Specifically, pleasure was positively associated with the amount of time spent planning and pursuing pleasurable activities during leisure time and with the wish to spend time on such activities (with small to medium effect sizes), while it was not associated with activities related to engagement and meaning. Engagement was positively related to the amount of time spent planning and pursuing engaging activities at work and to the wish to spend time engaged in such activities (small and medium effects). However, engagement was generally not associated with pleasure-related activities and, although engagement was associated with some of the meaning-related activities, these correlations were numerically smaller than those with the engagement situations and had at most a small effect size. Similarly, meaning was positively associated with the amount of time spent planning and pursuing meaningful activities in family-related situations and with the wish to spend time on such activities (with a small to medium effect size), while it was not associated with pleasure and meaning activities.

Relationships between the OTH and sociodemographic variables are generally small or nonexistent. Younger individuals usually score higher in pleasure, there are no differences

in sex, and engagement and meaning are not associated with age or sex (Buschor et al., 2013; Peterson et al., 2005; Ruch et al., 2010).

Previous studies have provided evidence of an association between the OTH and different indicators of well-being. They are positively related to life satisfaction, especially engagement and meaning (e.g., Peterson et al., 2005; Peterson, Ruch, Beermann, Park, & Seligman, 2007). This relationship is stable across different nations (Park et al., 2009). Moreover, individuals who score higher in the three orientations report greater life satisfaction (e.g., Peterson et al., 2005). Vella-Brodrick, Park, and Peterson (2009) found that the OTH predicts high levels of life satisfaction and positive affect and a low level of negative affect beyond sociodemographic variables and personality. Schueller and Seligman (2010) also found that engagement and meaning were positively correlated with, and pleasure negatively correlated with, objective educational and occupational attainment.

Steger, Oishi, and Kashdan (2009) found an association between OTH and the presence of meaning in life, whereby that between orientation to meaning and meaning in life was particularly strong. Peterson et al. (2007) observed that the character strengths most strongly associated with life satisfaction, such as zest, hope, love, gratitude and curiosity, were also associated with OTH, and that OTH mediated the relationships between some specific character strengths and life satisfaction. Buschor et al. (2013) observed that humor and zest were the strengths most strongly related to pleasure, zest and persistence the ones most strongly related to engagement, and religiousness the one most strongly related to meaning. Proyer et al. (2012) studied OTH among military professional officers and found that meaning was related to work satisfaction. Moreover, both subjective and objective career success were higher in officers who endorsed engagement or meaning. Additionally, all orientations were higher in individuals with a secure attachment style (Peterson & Park, 2007), gelotophobes exhibited a lower level of engagement (Proyer, Ruch, & Chen, 2012), and OTH was associated with vocational identity achievement (Hirschi, 2011).

The relationship of OTH with well-being and success highlights the importance of the three orientations to happiness in describing what builds a fulfilling life, which is relevant for the design of interventions aimed at helping individuals to flourish. In fact, Giannopoulos and Vella-Brodrick (2011) provided evidence of the effectiveness of interventions that influence OTH in order to increase well-being.

Since its development in 2005, the OTH Questionnaire has been translated into seventeen languages. Various studies have examined its psychometric properties in China (Chan, 2009; Chen, 2010), Australia (Vella-Brodrick et al., 2009), and German-speaking countries (Ruch et al., 2010). The psychometric properties of these adaptations are satisfactory and generally support previous findings regarding the original scale in terms of factor structure, internal consistency, and relationships with sociodemographic variables and well-being.

### **Present Study**

The goal of this study is to develop a shorter OTH questionnaire (hereafter “Short Form”) and to test its psychometric properties. We aim to derive a reliable and valid 9-item form with three items per scale. Short forms would be useful in large-scale studies in which the economical feasibility of the instruments is an important criterion and large samples could compensate for a possible reduction in reliability and validity. In particular, the development of the Short Form was motivated by the necessity to include a brief measure of the OTH in the project conducted by the NCCR-LIVES (Swiss National Centre of Competence in Research LIVES – Overcoming vulnerability: Life course perspectives), which examines the effects of the postindustrial economy and society on the development of vulnerability using a longitudinal and comparative approach.

In order to preserve the psychometric properties of the original OTH Questionnaire (hereafter “Parent Form”), we followed the recommendations of Smith, McCarthy, and Anderson (2000) for the development of short forms. One requirement is that the original

instrument has shown enough evidence of reliability and validity. The original OTH Questionnaire fulfills this requirement, as discussed above. Furthermore, the development of the Short Form and the analysis of its psychometric properties should be conducted in two independent samples. Therefore, the present research is comprised of two studies. Experiment 1 describes item selection for the Short Form, examines the factor structure of the 9-item scale in an attempt to replicate the three-factor structure of original scale, and explores its relationships with sociodemographic variables. Experiment 2 aims to replicate the factor structure found in Experiment 1 and to assess the reliability and validity of the Short Form in an independent sample. We examine the relationships of the Short Form with sociodemographic variables, with meaning in life, and with the endorsement of prototypical behaviors related to OTH.

We expect the Short Form to replicate the three-factor structure of the Parent Form. Intercorrelations between the scales are expected to be higher between meaning and engagement, and lower between meaning and pleasure. We also predict that the Short Form and the Parent Form will have similar relationships with sociodemographic variables, with meaning in life, and with the endorsement of prototypical behaviors related to OTH. We expect to find age differences, namely, younger participants scoring higher than older participants in pleasure, but not sex differences. The presence of meaning in life is likely to correlate positively with OTH, especially with meaning. We expect to find positive associations between behaviors related to one's leisure time and pleasure, between behaviors related to the work environment and engagement, and between behaviors related to family situations and meaning. Finally, we expect the three scales to show satisfactory internal consistency.

## Experiment 1

### Method

#### Participants

The replication sample consisted of 1,336 adults, taken from a larger participant pool. Four age categories (20–29, 30–39, 40–49, and 50–59 years old) and sex were used to define eight subgroups. Individuals from the larger pool were randomly selected and assigned to the corresponding subgroup, until there were 167 subjects per subgroup. Participants were from Austria, Germany, or Switzerland. About 52% were married or lived with their partners, while 48% were single.

#### Measures

The OTH Questionnaire (Peterson et al., 2005) is an 18- item self-report instrument that measures the endorsement of pleasure, engagement, and meaning. The six items per scale are rated on a 5-point Likert scale ranging from 1 (*very much unlike me*) to 5 (*very much like me*). We used the German adaptation (Ruch et al., 2010), which showed good psychometric properties. Internal consistency ranged from .63 to .76, and test-retest correlations over six months were above .63. It replicated the three-factor structure found in the original scale, and there was good convergence between self- and peer report. Moreover, the adaptation by Ruch et al. (2010) predicted prototypical behavior in pleasure, engagement, and meaning situations and satisfaction with life. In the present study, the internal consistency was  $\alpha = .73$  for pleasure,  $\alpha = .67$  for engagement, and  $\alpha = .74$  for meaning.

The OTH Questionnaire Short Form was developed by selecting nine items from the German adaptation of the OTH Parent Form (Ruch et al., 2010). In the following, we will explain how these items were selected.

#### Procedure

Participants completed the OTH Parent Form on the [www.charakterstaerken.org](http://www.charakterstaerken.org) website between January 2006 and June 2007; the data thus obtained mirrored the data published in

Ruch et al. (2010). The website was promoted through different means and targeted different groups (e.g., artists and theologians) to ascertain sample heterogeneity. Volunteers completed the questionnaire online and received a report of their results. They did not receive any form of compensation.

### **Selection of Items for the OTH Short Form**

We used the OTH factor analysis output reported in Ruch et al. (2010) as the basis for selecting the nine items. We considered factor structure as well as preservation of item content (i.e., when two items with high loadings had similar content, only one was selected for the short form). The items of the Short Form are listed in Appendix A.

## **Results**

### **Replication of the Factor Structure**

To replicate the factor structure reported in Ruch et al. (2010), a principal components analysis with varimax rotation with the 18 items of the Parent Form was performed. The factor loadings on the three factors are presented in Table 1. Item 9, designed to measure engagement, had a higher loading on pleasure. None of the remaining items showed cross-loadings.

This analysis was repeated with the nine items of the Short Form and yielded an adequate three-factor solution (see Table 2) with no cross-loadings. The factor weights of the nine selected items were somewhat higher than those of the 18 items of the Parent Form (Table 1). In general, we found that the Short Form successfully reproduces the factor structure of the Parent Form. Nevertheless, a further replication in an independent sample was still necessary.

Table 1  
Principal components analysis with varimax rotation of the parent form  
(Experiment 1, N = 1,336)

	Item	Factor loadings		
		Pleasure	Engagement	Meaning
Pleasure	3	<b>.55</b>	.24	.05
	8	.62	.35	.11
	13	<b>.73</b>	.03	.00
	15	.69	-.04	-.05
	16	.44	.07	.31
	18	<b>.75</b>	-.04	-.08
Engagement	1	.06	<b>.54</b>	.11
	4	.12	.53	.22
	6	.17	<b>.70</b>	.04
	7	.15	<b>.76</b>	.18
	9	.48	.30	.08
	10	.03	.55	.01
Meaning	2	.04	.12	<b>.73</b>
	5	-.05	.36	.46
	11	-.02	.15	<b>.72</b>
	12	.03	.19	<b>.71</b>
	14	.05	.18	.64
	17	.08	-.20	.55
Eigenvalue		2.75	2.50	2.68
Explained variance (in%)		15.30	13.88	14.90

Note. Items selected for the Short Form are in **boldface**.

Table 2  
Principal components analysis with varimax rotation of the short form  
(Experiment 1, N = 1,336)

	Item	Factor loadings		
		Pleasure	Engagement	Meaning
Pleasure	3	<b>.82</b>	.01	-.10
	13	<b>.81</b>	.04	.04
	18	<b>.61</b>	.24	.11
Engagement	1	.10	<b>.80</b>	.19
	6	.09	<b>.80</b>	.03
	7	.07	<b>.65</b>	.13
Meaning	2	.08	.12	<b>.85</b>
	11	.02	.12	<b>.81</b>
	12	-.04	.11	<b>.71</b>
Eigenvalue		1.74	1.79	1.94
Explained variance (in%)		19.29	19.88	21.55

Note. Expected location of items on factors in **boldface**.

## **Correlations Between the Short Form Scales and the Parent Form Items, Descriptive Statistics, Relationships with Sociodemographic Variables, and Internal Consistency**

To demonstrate that the OTH assessed by the Parent Form were well represented in the Short Form, we explored the correlations between the Short Form scale scores and the Parent Form items. All of the Parent Form items yielded significant correlations (except Item 16 in Experiment 2,  $r = .08$ , which also showed the lowest loadings of the Parent Form items in previous studies, such as Ruch et al., 2010) with their corresponding Short Form scales, ranging from .14 to .84 (median = .47).

The means and standard deviations across age groups and sex, and internal consistencies of the Short and Parent Forms, are presented in Table 3. A mixed ANOVA, with scale type as a within-subject variable (with two levels: Parent Form and Short Form), and sex (two levels: male and female) and age (four levels: 20–29, 30–39, 40–49, and 50–59) as between-subject variables, was performed for each of the three OTH.

Regarding pleasure, there was a significant effect of scale type,  $F(1, 1328) = 798.01, p < .001, \eta_p^2 = .375$ , showing that scores in the Short Form were higher than scores in the Parent Form. There was also a significant effect of age,  $F(3, 1328) = 17.94, p < .001, \eta_p^2 = .039$ . Posthoc comparisons with Bonferroni correction revealed that participants between 20 and 29 years of age scored higher than those between 30 and 39 ( $p = .004$ ), 40 and 49 ( $p < .001$ ), and 50 and 59 ( $p < .001$ ). Also, participants between 30 and 39 years of age scored higher than those between ages 50 and 59 ( $p = .003$ ). There were no other significant effects on pleasure.

As for engagement, there was a significant effect of scale type,  $F(1, 1328) = 256.54, p < .001, \eta_p^2 = .162$ , showing that Short Form scores were higher than Parent Form scores. There was also a significant effect of sex,  $F(1, 1328) = 5.95, p = .015, \eta_p^2 = .004$ , revealing that male participants scored higher than female participants. Moreover, there was a significant effect of age,  $F(3, 1328) = 10.19, p < .001, \eta_p^2 = .023$ . Posthoc comparisons with

Bonferroni correction showed that participants between 40 and 49 years of age scored higher than those between 20 and 29 ( $p = .003$ ). Also, participants between 50 and 59 years of age scored higher than those between 20 and 29 ( $p < .001$ ) or those between 30 and 39 ( $p = .004$ ). There were no other significant effects.

Table 3  
*Means (standard deviations) of the parent and short forms across sex and age, and internal consistencies (Experiment 1,  $N = 1,336$ )*

Age group	Sex	Pleasure		Engagement		Meaning	
		Short Form	Parent Form	Short Form	Parent Form	Short Form	Parent Form
20-29	M	3.83 (.79)	3.55 (.68)	3.12 (.77)	3.05 (.61)	2.93 (1.01)	3.09 (.76)
	F	3.89 (.73)	3.60 (.67)	3.22 (.72)	3.10 (.61)	2.88 (.99)	3.04 (.74)
	Total	3.86 (.76)	3.57 (.67)	3.17 (.74)	3.07 (.61)	2.91 (.99)	3.06 (.75)
30-39	M	3.65 (.80)	3.38 (.68)	3.36 (.80)	3.23 (.67)	2.85 (.99)	2.96 (.80)
	F	3.71 (.64)	3.39 (.58)	3.24 (.77)	3.06 (.64)	3.00 (.93)	3.11 (.73)
	Total	3.68 (.72)	3.38 (.63)	3.30 (.78)	3.15 (.66)	2.93 (.96)	3.04 (.77)
40-49	M	3.57 (.75)	3.30 (.69)	3.50 (.76)	3.32 (.60)	3.04 (.95)	3.16 (.77)
	F	3.53 (.79)	3.27 (.72)	3.30 (.80)	3.11 (.68)	3.00 (1.01)	3.08 (.79)
	Total	3.55 (.77)	3.28 (.71)	3.40 (.78)	3.22 (.65)	3.02 (.98)	3.12 (.78)
50-59	M	3.51 (.88)	3.25 (.72)	3.55 (.77)	3.34 (.64)	3.01 (1.00)	3.19 (.77)
	F	3.41 (.80)	3.18 (.73)	3.49 (.79)	3.23 (.69)	3.07 (.99)	3.18 (.82)
	Total	3.46 (.84)	3.22 (.73)	3.52 (.78)	3.23 (.67)	3.04 (.99)	3.19 (.79)
Total male		3.64 (.81)	3.37 (.70)	3.38 (.79)	3.24 (.64)	2.96 (.99)	3.10 (.78)
Total female		3.64 (.76)	3.36 (.70)	3.31 (.78)	3.13 (.66)	2.99 (.98)	3.10 (.77)
Total scale		3.64 (.79)	3.37 (.70)	3.35 (.78)	3.18 (.65)	2.97 (.99)	3.10 (.77)
Reliability $\alpha$		.63	.73	.65	.67	.71	.74

Concerning meaning, there was a significant effect of scale type,  $F(1, 1328) = 122.57$ ,  $p < .001$ ,  $\eta_p^2 = .084$ , revealing that Parent Form scores were higher than Short Form scores. No other significant effects were observed.

Although the pleasure and engagement scores of the Short Form were generally higher than those of the Parent Form and the meaning scores of the Short Form lower than those of the Parent Form, the nonsignificant interactions show that the patterns of relationships of each OTH with age and sex were similar in both forms.

The intercorrelations between the Short and Parent Form scales indicate an acceptable content overlap (see Table 4). Moreover, the intercorrelations between the three scales within each OTH version exhibited similar patterns. The correlations between engagement and meaning and between engagement and pleasure were similar as well as higher than the correlation between meaning and pleasure.

Table 4

*Correlations between the Parent and Short Form scales*

	Experiment 1 ( $N = 1,336$ )					Experiment 2 ( $N = 222$ )				
	M(SF)	E(SF)	P(SF)	M(PF)	E(PF)	M(SF)	E(SF)	P(SF)	M(PF)	E(PF)
E(SF)	.29**					.32**				
P(SF)	.06*	.23**				-.03	.18**			
M(PF)	.91**	.31**	.06*			.72**	.23**	-.08		
E(PF)	.32**	.87**	.30**	.35**		.33**	.49**	.06	.43**	
P(PF)	.12**	.29**	.89**	.13**	.39**	.07	.16*	.56**	.10	.27**

*Note.* M = Meaning. E = Engagement. P = Pleasure. SF = Short Form. PF = Parent Form.

\* $p < .05$ . \*\* $p < .01$ .

Finally, internal consistency was slightly lower in the Short Form than in the Parent Form (see Table 3) due to the smaller number of items. However, the mean interitem correlations of the Parent Form scales were .31 (pleasure), .25 (engagement), and .32 (meaning), whereas those of the Short Form scales were .36 (pleasure), .38 (engagement), and .45 (meaning). These correlations demonstrate that the shorter scales were at least as consistent as the parent scales. Moreover, by applying the Spearman-Brown prophecy formula to compute the potential reliabilities with six items, we found values of .77, .79, and .83, respectively, which are good.

## **Experiment 2**

### **Method**

#### **Participants**

The validation sample consisted of 222 adults from Austria, Germany, and Switzerland, aged between 18 and 74 years ( $M = 49.94$ ,  $SD = 12.34$ ) and mainly female (84.2%). About 45% were married or lived with their partners, while 48% lived alone.

#### **Measures**

– *The German adaptation of the OTH Questionnaire (Ruch et al., 2010)*. (See description above.) In this study, the  $\alpha$  coefficients were  $\alpha = .71$  for pleasure,  $\alpha = .65$  for engagement, and  $\alpha = .80$  for meaning.

– *The OTH Questionnaire Short Form*. We used the 9-item Short Form developed in Experiment 1. In this study, the  $\alpha$  coefficients were  $\alpha = .68$  for pleasure,  $\alpha = .60$  for engagement, and  $\alpha = .75$  for meaning.

– *The OTH Situations Rating Form (Ruch et al., 2010)*. This instrument consisted of short descriptions of three common situations (leisure time, work, and family) based on which participants were to subjectively assess their orientations to pleasure, engagement, and meaning, respectively. For example, in the leisure condition, participants were asked to imagine activities they enjoyed doing in their leisure time, such as hobbies they pursue to

reward themselves. Using a 5-point scale ranging from 1 (*very much like me*) to 5 (*very much unlike me*), they answered three questions related to these situations that reflected (1) how much time they spend planning such activities; (2) how much time they spend pursuing such activities; and (3) whether they primarily pursued such activities under ideal conditions.

– *The Meaning in Life Questionnaire (MLQ; Steger, Frazier, Oishi, & Kaler, 2006)*. We used a German version of the MLQ, which had been translated by means of a back-translation procedure and showed good psychometric properties (Harzer & Steger, in preparation). The MLQ is a 10-item scale that assesses the extent to which respondents feel their lives are meaningful (presence subscale, five items) and the extent to which they are actively seeking meaning in their lives (search subscale, five items). using a 7-point scale ranging from 1 (*absolutely untrue*) to 7 (*absolutely true*). Steger et al. (2006) reported good internal consistency and one-month temporal stability. In this study, internal consistency was  $\alpha = .77$  (MLQ-Presence) and  $\alpha = .93$  (MLQ-Search).

## **Procedure**

Participants who completed the OTH questionnaire on the [www.charakterstaerken.org](http://www.charakterstaerken.org) website after February 2012 were invited to fill in the Short Form, the OTH Situations Rating Form, and the MLQ, and completed the entire assessment before July 2012. For some of the participants, over two months passed between the two assessments.

## **Results**

### **Exploratory Factor Analysis**

Using a principal components analysis with varimax rotation, the nine items of the Short Form were grouped into three factors, easily interpretable as the three OTH (see Table 5). All of the items that conceptually belonged to the same OTH dimension only loaded highly on the corresponding factor. Tucker's phi coefficients, which indicated the amount of congruence between the factors observed in the present study (Table 5) and those obtained in Experiment 1 (Table 2), were .98 for the factors representing pleasure, .96 for the factors representing

engagement, and .94 for the factors representing meaning, revealing a high level of stability in the factor structure across samples.

Table 5

*Principal components analysis with varimax rotation of the Short Form  
(Experiment 2, N = 222)*

		Factor loadings		
	Item	Pleasure	Engagement	Meaning
Pleasure	<b>3</b>	<b>.69</b>	.09	.20
	<b>13</b>	<b>.81</b>	.19	-.09
	<b>18</b>	<b>.80</b>	-.05	-.16
Engagement	1	.03	<b>.67</b>	.03
	6	.12	<b>.78</b>	.06
	7	.06	<b>.71</b>	.31
Meaning	2	.01	.05	<b>.85</b>
	11	-.05	.16	<b>.73</b>
	12	-.00	.12	<b>.82</b>
Eigenvalue		1.65	1.80	2.10
Explained variance (in%)		18.30	19.91	23.27

*Note.* Expected location of items on factors is in **boldface**.

### Confirmatory Factor Analysis

We tested the three-factor model with a confirmatory factor analysis (using the lavaan package in R; Rosseel, 2012), entering the nine items as ordered factors. The covariances between factors were unconstrained (see Figure 1). The model fit was good:  $\chi^2(24) = 41.87, p = .013$ , CFI = .97, RMSEA = .06, 90% CI [.026, .087], with fit indices within the

conventional cutoff range (e.g., Hu & Bentler, 1999). Estimates of all factor weights were significant ( $p < .001$ ). The correlations between meaning and pleasure ( $p = .567$ ) and between engagement and pleasure ( $p = .056$ ) were not significant, while the correlation between engagement and meaning was significant ( $p < .001$ ).

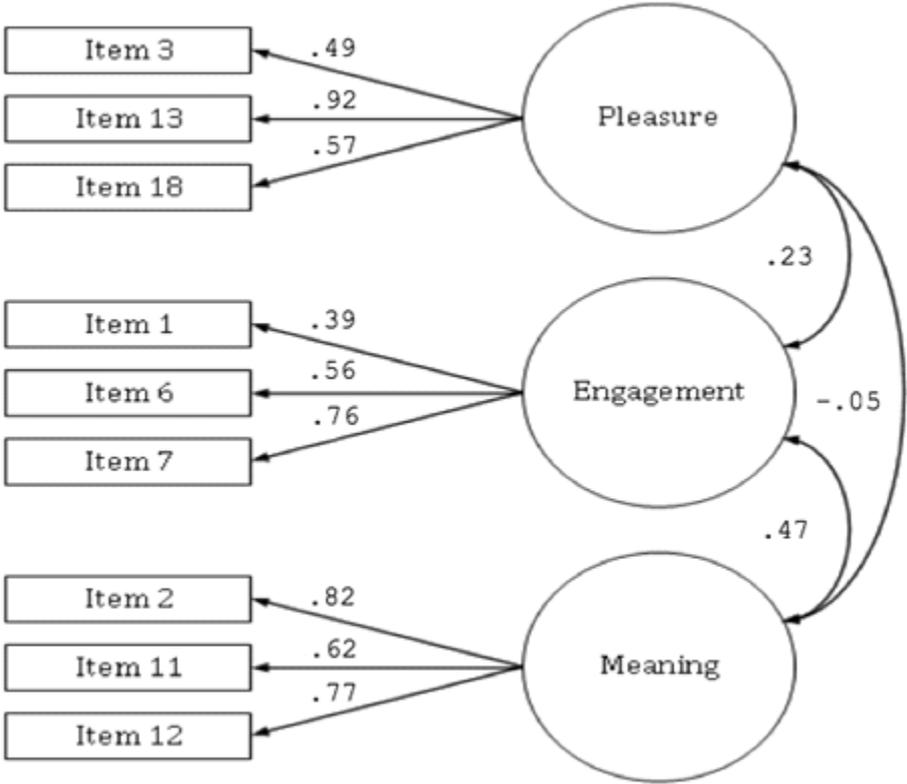


Figure 1. Confirmatory factor analysis of the OTH Short Form (Experiment 2,  $N = 222$ ).

**Descriptive Statistics, Internal Consistencies, and Relationships with Sociodemographic Variables**

Descriptive statistics and  $\alpha$  coefficients of the Short and Parent Forms are in Table 6. A mixed ANOVA was performed for the three OTH, with scale type as a within-subject variable (with two levels: Parent Form and Short Form) and sex (two levels: male and female) and age (five levels: 18–29, 30–39, 40–49, 50–59, and 60–74) as between-subject variables.

Table 6

*Means (standard deviations) of the parent and short forms across sex and age, and internal consistencies (Experiment 2, N = 222)*

Age group	Sex	Pleasure		Engagement		Meaning	
		Short Form	Parent Form	Short Form	Parent Form	Short Form	Parent Form
18-29	M	3.90 (.77)	3.52 (.51)	3.10 (.63)	3.15 (.53)	3.07 (1.25)	2.83 (1.04)
	F	3.81 (.63)	3.40 (.66)	3.11 (.69)	2.86 (.65)	2.85 (1.01)	2.80 (.82)
	Total	3.84 (.66)	3.43 (.61)	3.11 (.66)	2.94 (.63)	2.91 (1.06)	2.81 (.87)
30-39	M	3.61 (.70)	3.11 (.65)	2.79 (.60)	2.60 (.47)	2.73 (.76)	2.47 (.56)
	F	3.53 (.66)	3.29 (.65)	2.94 (.74)	2.81 (.60)	3.02 (1.11)	3.04 (.88)
	Total	3.55 (.66)	3.24 (.64)	2.91 (.71)	2.76 (.57)	2.95 (1.04)	2.90 (.84)
40-49	M	3.33 (.65)	3.08 (.51)	2.96 (.76)	2.82 (.62)	3.21 (.91)	3.10 (1.02)
	F	3.53 (.75)	3.40 (.70)	3.32 (.56)	3.14 (.69)	2.99 (1.01)	2.94 (.82)
	Total	3.44 (.71)	3.22 (.63)	3.17 (.68)	3.00 (.68)	3.08 (.97)	3.01 (.91)
50-59	M	3.57 (.76)	3.25 (.53)	3.00 (.63)	3.19 (.57)	3.18 (.90)	3.16 (.75)
	F	3.38 (.80)	3.13 (.73)	3.27 (.81)	3.10 (.66)	3.07 (.94)	3.08 (.93)
	Total	3.45 (.79)	3.17 (.67)	3.18 (.76)	3.13 (.63)	3.11 (.92)	3.11 (.86)
60-74	M	3.52 (.72)	3.21 (.60)	3.44 (.40)	3.47 (.64)	3.22 (.69)	3.53 (.55)
	F	3.51 (.74)	3.26 (.69)	3.25 (.67)	3.26 (.43)	3.22 (.87)	3.22 (.84)
	Total	3.51 (.73)	3.24 (.66)	3.31 (.59)	3.33 (.50)	3.22 (.79)	3.32 (.76)
Total male		3.52 (.72)	3.21 (.60)	3.00 (.67)	2.98 (.62)	3.11 (.91)	3.02 (.89)
Total female		3.51 (.74)	3.26 (.69)	3.18 (.71)	3.01 (.65)	3.01 (1.00)	3.00 (.86)
Total scale		3.51 (.73)	3.24 (.66)	3.12 (.70)	3.00 (.64)	3.05 (.97)	3.00 (.87)
Reliability $\alpha$		.68	.71	.60	.65	.75	.80

Regarding pleasure, there was a significant effect of scale type,  $F(1, 212) = 26.11, p < .001, \eta_p^2 = .110$ . Short Form scores were higher than Parent Form scores. There were no other significant effects on pleasure. Concerning engagement, there was a significant effect of age,  $F(4, 212) = 3.32, p = .012, \eta_p^2 = .059$ . Posthoc comparisons with Bonferroni correction showed that participants between 60 and 74 years of age scored higher than those between 30 and 39 ( $p = .020$ ). No other significant effects were observed in engagement or in meaning. The nonsignificant interactions show that the pattern of relationships of each OTH with age and sex were similar in the two forms.

The internal consistency of the Short Form scales was slightly lower than that of the Parent Form. However, the mean interitem correlations were .29 (pleasure), .25 (engagement), and .39 (meaning) in the Parent Form scales, and .41 (pleasure), .32 (engagement), and .49 (meaning) in the Short Form scales. As in Experiment 1, the shorter scales were at least as consistent as the Parent Form scales. Moreover, according to the Spearman-Brown prophecy formula, if the Short Form had had six items per scale, internal consistency would have been  $\alpha = .81, .75, \text{ and } .86$ , respectively, showing that internal consistency is within an acceptable range.

The correlations between the scales in the Short Form and their corresponding scales in the Parent Form are presented in Table 4. The observed values indicate an acceptable overlap in the content of the two forms. Moreover, correlations between the three scales within each version of the OTH exhibited the same pattern, the correlation between engagement and meaning being the highest correlation in both forms. The second highest correlation was the one between engagement and pleasure. The lowest correlation was the one between pleasure and meaning.

### **Additional Evidence of Construct Validity**

We examined the correlations of both forms with the MLQ and the OTH Situations Rating Form (see Table 7). In general, the patterns of the correlations of both forms with these variables were very similar, which supports the construct validity of the Short Form.

Table 7

*Correlations of the Parent and Short Forms with the MLQ and the OTH Situations Rating Form (Experiment 2, N = 222)*

		Pleasure		Engagement		Meaning	
		Short	Parent	Short	Parent	Short	Parent
		Form	Form	Form	Form	Form	Form
MLQ	Presence	.14*	.26**	.22**	.33**	.45**	.46**
	Search	-.04	-.14*	-.04	-.14*	.14*	.20**
Leisure Situation	Planning	.31**	.31**	.20**	.09	.14*	.10
	Pursuing	.38**	.29**	.20**	.21**	.17*	.13
Work Situations	Ideal	.36**	.26**	.01	-.02	.07	.04
	Planning	.13	.14*	.25**	.22**	.19**	.20**
	Pursuing	.13	.16*	.26**	.38**	.27**	.31**
Family Situations	Ideal	.09	.08	.07	.05	.19**	.12
	Planning	.18**	.16*	.23**	.14*	.23**	.24**
	Pursuing	.23**	.19**	.25**	.19**	.32**	.33**
	Ideal	.20**	.08	.13	.07	.18**	.20**

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

The correlations between presence of meaning (MLQ) and meaning were higher than those with the other OTH. The positive correlation with search for meaning may reflect the fact that individuals who are oriented to a life of meaning highly value and seek meaning in

their lives. Overall, the correlations between the two forms and the MLQ are quite similar, but those between the MLQ and the Short Form are slightly lower.

The correlations between the OTH Situations Rating Form categories and the OTH scales were generally similar in size across the Short and the Parent Form. As expected, investment in leisure activities correlated most strongly with pleasure; work activities generally correlated most strongly with engagement; and family activities were associated most strongly with meaning.

### **Discussion**

Our research involved the development of a nine-item short Form of the OTH Questionnaire and provided initial evidence of its validity and reliability. In Experiment 1, we selected nine items from the German adaptation of the OTH (Ruch et al., 2010). This Short Form replicated the three-factor structure found in the 18-item Parent Form. The pleasure and engagement scores were higher and the meaning scores lower in the Short Form than in the Parent Form. Nonetheless, both forms showed similar relationships with age and sex. Although internal consistency was slightly lower in the Short Form than in the Parent Form, the mean interitem correlations were higher. In Experiment 2, we further evaluated the Short Form psychometric properties in an independent sample. We replicated the three-factor structure, and the coefficients of congruence between the factor structures observed in the two independent samples were very high, further supporting the adequate factor structure of the short scale. The pleasure scores were higher in the Short Form than in the Parent form. However, both forms showed similar relationships with age and sex. Again, although internal consistency was slightly lower in the Short Form than in the Parent Form, the mean interitem correlations were higher. The correlations between the corresponding scales of the Short and Parent Form indicate an acceptable level of content overlap. Regarding the intercorrelations of the OTH scales, the highest correlation in both forms was between engagement and meaning; the second highest correlation was between engagement and pleasure; the lowest correlation was

between pleasure and meaning. These results are consistent with previous research (e.g., Peterson et al., 2005) and with our hypotheses. The relationships of the OTH scales with sociodemographic variables, with the endorsement of prototypical behaviors related to the three OTH, and with meaning in life showed that the pattern of these relationships was very similar for both the Short and the Parent Form.

A limitation of our study is the timespan between the tests we compared in our analysis. The time between the evaluation of the OTH Short and Parent Form varied from two to five months, which could have contributed to a possible attenuation of the correlations between the two forms.

In conclusion, the OTH Short Form can be considered a timesaving alternative to the original OTH questionnaire. We recommend its use only in large-scale studies when many questionnaires are to be completed and when large samples compensate for a possible reduction in reliability. As shown by our results, the OTH Short Form has good psychometric properties, with internal consistency only slightly below that of the original OTH scales, but still acceptable for large-scale studies, and with larger mean interitem correlations, and construct validity that is very good in terms of factor structure and associations with related constructs.

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## Appendix A: Items of the Short Form of the German OTH

Scale	Number	Item
Pleasure	3	Das Leben ist zu kurz, um die Freuden, die es bietet, aufzuschieben. (Life is too short to postpone the pleasures it can provide.)
	13	Bei der Auswahl von Aktivitäten ist es mir immer wichtig, dass sie Spaß machen. (In choosing what to do, I always take into account whether it will be pleasurable.)
	18	Für mich bedeutet ein gutes Leben ein Leben, das Vergnügen bereitet. (For me, the good life is the pleasurable life.)
Engagement	1	Was ich auch tue, die Zeit vergeht wie im Flug. (Regardless of what I am doing, time passes very quickly.)
	6	Ob bei der Arbeit oder beim Spiel, ich bin mit Leib und Seele dabei und mir meiner selbst nicht bewusst. (Whether at work or play, I am usually “in a zone” and not conscious of myself.)
	7	Ich gehe immer völlig in dem auf, was ich tue. (I am always very absorbed in what I do.)
Meaning	2	Mein Leben dient einem höheren Zweck. (My life serves a higher purpose.)
	11	Ich trage Verantwortung, die Welt besser zu machen. (I have a responsibility to make the world a better place.)
	12	Mein Leben hat einen bleibenden Sinn. (My life has a lasting meaning.)

*Note.* Item numbers refer to the OTH Parent Form.