GENERAL AND SPECIFIC FACTORS OF FUTURE ORIENTATION LINK TO AWARENESS OF MEANING IN LIFE

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Abstract. *Future orientation reflects individual orientation toward personal goals, including cognitive representations of these goals and goal-directed behavior. Recent meta-analytical studies confirmed the positive effects of future orientation in various life domains. The effect of goal-orientedness in developing meaning in life still needs to be explored. This study accounted for the variability of personal goals across the life span and socialization trajectories. It focused on the relationships between a complex factorial structure of future orientation and the presence of meaning in life in emerging adults acquiring tertiary education. In total, 555 students participated in the study (mean age was 21.13, SD = 2.45, 64% females). The Individual Future Orientation Scale and Meaning in Life Questionnaire were applied for measurement. The factor analysis demonstrated that the bifactor model of future orientation includes the general factor and additional specific factors of future-oriented behavior and family-related goals. The general future orientation and future-oriented behavior positively predicted the presence of meaning in life. The emphasis on future-oriented behavior in a complex prediction is in line with the significance of the purpose in life for subjective awareness of meaningful life.*
Keywords: future orientation, general factor, meaning in life, specific factors.

Introduction

Future orientation is a broad psychological construct addressing individual views of the future involving its motivational, cognitive, and behavioral components (for an overview, see Seginer, 2009). Pursuing meaningful life includes strivings for purpose in life (Baumeister & Wilson, 1996) and higher-order individual goals (Emmons, 2003). The model of the meaning in life (Steger, Frazier, Oishi, & Kaler, 2006) contains the presence of meaning and search for it and reflects mentioned strivings. The relationship between future orientation and meaning in life remains topical in psychological studies (Lui et al., 2022; Miconi, Geenen, Frounfelker, Levinsson, & Rousseau, 2022). Simultaneously, analyzing different approaches to future orientation and its complexity (Andre, Vianen, Peetsma, & Oort, 2018) provides the basis for re-investigating its structure. The

present study focused on the re-assessment of a factorial structure of future orientation and explored its links to the presence of meaning in life.

Structure of Future Orientation and Links to Meaning in Life

Approaches to future orientation represent it in various ways (Seginer, 2009). Simple indicators of future orientation reflect its unidimensional view representing the orientation as a sum of items within a single scale (e.g., Zimbardo & Boyd, 1999). Simultaneously, models of future orientation include multiple interrelated components, reflecting the multi-dimensional nature of the construct (e.g., Seginer, Vermulst, & Shoyer, 2004). Focusing on outcome variables often limits the level of a detailed representation of future orientation as a predictor, and researchers use relatively simple unidimensional measures (Lui et al., 2022; Miconi et al., 2022) or index variables, representing this orientation as a composite of subfactors (Kolesovs, 2017).

Recent meta-analytical findings (Andre et al., 2018) demonstrated that different elements of individual future time perspective – an overarching construct for future orientation – link to positive educational, occupational, and health outcomes. The analysis showed that the main element of future orientation is the individual focusing on personal goals and goal-oriented behavior. The meta-analysis of studies on each of the components of future orientation revealed positive links to motivational and behavioral outcomes. It emphasizes the significance of cognitive and behavioral components of future orientation, which are previously revealed in domain-specific models (Seginer et al., 2004; Seginer, 2009).

As a result, it is possible to assess the structure of future orientation accounting for two relatively stable tendencies: the generalization of its measures and the differentiation of specific components of future orientation. The bifactor model allows us to combine mentioned approaches. Under the logic of the bifactor model (e.g., Chen, Hayes, Carver, Laurenceau, & Zhang, 2012), it represents a construct under investigation as a combination of general and specific factors. The general one accounts for the shared commonality of items, while specific ones reflect the unique influence of additional components.

The cognitive component of future orientation refers to the representation of personal goals (Seginer et al., 2004), which can be grouped into self- and other-related goals (Nurmi, 2004). The behavioral component is related to goal-related exploration and behavioral commitment to selected goals (Seginer et al., 2004). Therefore, the current study considered future orientation as a combination of the general factor and three potential specific factors, representing self- and other-oriented goals and future-oriented behavior.

Testing the model's validity has based on the link between future-orientedness and perceived meaning in life. Higher-order personal goals are

associated with a sense of purpose and meaningful life (Emmons, 2003). This positive link remains topical in empirical studies (Kolesovs, 2019; Lui et al., 2022; Miconi et al., 2022). The suggested test of a structure of future orientation provides an opportunity for assessing complex links between the general and specific factors and meaning perception.

Accounting for separated cognitive and behavioral components (Seginer et al., 2004), it was expected that they could form independent links to perceived meaning because the presence of personal goals and pursuing them in individual behavior can provide the basis for purposeful life (Baumeister & Wilson, 1996). Another source of meaningful life can associate with goal-oriented behavior addressing personal efficacy and agency (Baumeister & Wilson, 1996).

Method

Participants. The study participants were 555 university students aged 18 to 29 (M = 21.13, SD = 2.45 years). Females constituted 64% of the sample; 14% of students were graduated, 38% percent were employed, and only 4% were married.

Measures. *The Individual Future Orientation Scale* (IFOS) (Kolesovs, 2017) represents future orientation. Participants used a seven-point Likert-type scale for answers. The scale was developed and applied in Latvian. For purposes of the present study, the scale was shortened and involved the cognitive component (the content of distant goals in seven domains) and the behavioral component.

The cognitive item pool represented the content of distant goals by asking: "To what extent do you associate distant goals with the following domains?" Specific domains included: education, work, property and money, personal growth, family, children, and friends.

The behavioral subscale assessed the exploration of opportunities for goal fulfillment and commitment to these goals. Three items included the definitiveness of distant goals, their specification, and the exploration of opportunities for their fulfillment. For example: "Do you have defined your personal goals?" represented commitment.

The Latvian version (Kolesovs, 2019) of *the Meaning in Life Questionnaire* (MLQ, Steger et al. 2006) was applied to measure two components of the meaning in life: Presence (five items) and Search (five items). Participants used a seven-point Likert-type scale from 1 ("absolutely untrue") to 7 ("absolutely true"). The Presence subscale contains Items 1, 4, 5, 6, and reversed Item 9, representing the degree of the presence of meaning in their lives. An item example: "I have a good sense of what makes my life meaningful." The Cronbach's alpha for the Latvian scale version was .88. The Search subscale includes Items 2, 3, 7, 8, and 10, reflecting the search for meaning in life. For example: "I am looking for

something that makes my life feel meaningful." Cronbach's alpha for this scale was .87.

Procedure. Data were collected in 2019. Participation in the study was voluntary and anonymous. The scale was administered in Latvian. The sample size was calculated using a procedure suggested by Moshagen and Erdfelder (2016). For a confirmatory factor analysis, the minimal sample size was 520, considering the 26 degrees of freedom of the model, an alternate level of RMSEA of .05, the statistical power of .95, and alpha of .05. The primary sample ($N = 555$) was in line with this requirement.

For the structural equation modeling (SEM), the level of alternative RMSEA was selected at .08, representing a less solid but acceptable error level (Hu & Bentler, 1999). As a result, for 79 degrees of freedom, RMSEA of .08, the statistical power of .95, and alpha of .05, the minimum sample size was 105. The subsample completing MLQ ($n = 115$) fitted these requirements. A subsample of 40 students underwent the retest procedure after four weeks. It involved IFOS items.

Confirmatory factor analysis and SEM were performed by 'lavaan' (0.6-12) for R (Rosseel, 2012). The 'BifactorIndicesCalculator' 0.2.2 package (Dueber, 2021) calculated the bifactor model's indices described in Rodriguez, Reise, and Haviland (2016).

Results

An assessment of the factor structure of future orientation included four models: 1) the unidimensional model with all items loaded by a single factor; 2) the correlated factor model presented the construct as multi-dimensional; 3) the second-order factor mediated the effect of future orientation by first-level components; 4) the bifactor model included the general and specific factors of future orientation.

The confirmatory factor analysis (Table 1) demonstrated that the bifactor model best fits the data. The unidimensional model had the worst fit, while the higher-order and correlated factors model demonstrated an exact fit because of the structure of the models.

Table 1 **Fit indices of factorial models of future orientation (N = 555)** *(this study)*

Model	χ^2	df	p	CFI	TLI	RMSEA [95% CI]	p_{RMSEA}	SRMR
1	502.05	35	.000	0.58	0.46	.155 [.145; .165]	.000	.099
2	145.87	32	.000	0.90	0.86	.080 [.069; .092]	.000	.065
3	145.87	32	.000	0.90	0.86	.080 [.069; .092]	.000	.065
4	82.94	26	.000	0.95	0.91	.063 [.049; .077]	.059	.036

Note. 1 – Unidimensional. 2 – Correlated factors. 3 – Second-order factor. 4 – Bifactor.

The factor analysis of the bifactor model (Table 2) confirmed that all items had factor loading above .30 on the general factor. In addition, family- and children-related goals had loadings above .60 on a specific factor. Similarly, exploring opportunities and specifying goals demonstrated high loading on their specific factor. Among self-related goals, only education had a loading above .60 on a specific factor.

The percentage of the reliable variance of the general factor was close to .80, indicating its significance within the model but allowing a broad interpretation of specific factors. The explained common variance of slightly less than .50 was in line with this effect. Other-oriented goals and future-oriented behavior were potential specific factors with a percentage of reliable variance close to .70. Additionally, factor determination scores of .90 and above and construct replicability over .70 (Rodriguez et al., 2016) confirmed the significance of the general factor and a specific factor of other-related goals. In contrast, self-related goals are predominantly loaded by the general factor of future orientation and do not form a specific factor with a low percentage of reliable variance and construct replicability.

Table 2 **Factor loadings, reliability, and statistical indices of the bifactor model of future orientation (N = 555).** *(this study)*

Items	FO-G	SRG	ORG	FOB
SRG Growth	.62	.21		
SRG Education	.41	.61		
SRG Work	.64	.31		
SRG Property	.79	-.16[a]		
ORG Family	.42		.85	
ORG Children	.39		.71	
ORG Friends	.36		.13	
FOB Commitment	.38			.30
FOB Exploring Opportunities	.34			.73
FOB Specifying Goals	.39			.60
M (SD)	4.48 (0.83)	4.78 (0.97)	4.08 (1.34)	4.51 (1.06)
Test-Retest Reliability (4 weeks)	.83	.74	.82	.78
ω	.85	.78	.76	.71
$ω_H/ω_{HS}$	.66	.10	.52	.49
PRV	.78	.13	.68	.69
FD	.90	.71	.93	.82
H	.81	.43	.79	.65
ECV	.47			

FO-G – General factor of future orientation. SRG – Self-related goals. ORG – Other-related goals. FOB – Future-oriented behavior. $ω_H$ – Hierarchical ω for the general factor. $ω_{HS}$ – Hierarchical ω for specific factors. PRV – Percentage of reliable variance. FD – Factor determinacy. H – Construct replicability. ECV – Explained common variance.
[a] Non-significant factor loading.

SEM analysis included predicting the presence of meaning in life by the general factor of future orientation and specific factors of future-oriented behavior and other-related goals (Figure 1). This exploratory model demonstrated a good fit to data (Hu & Bentler, 1999): $\chi^2(79) = 93.96$, $p = .105$, CFI = 0.968, TLI = 0.957, RMSEA = 0.042, 95% CI [.000; .067] $p_{RMSEA} = .670$, and SRMR = 0.059. This model explained 38% of the variance of the presence of meaning.
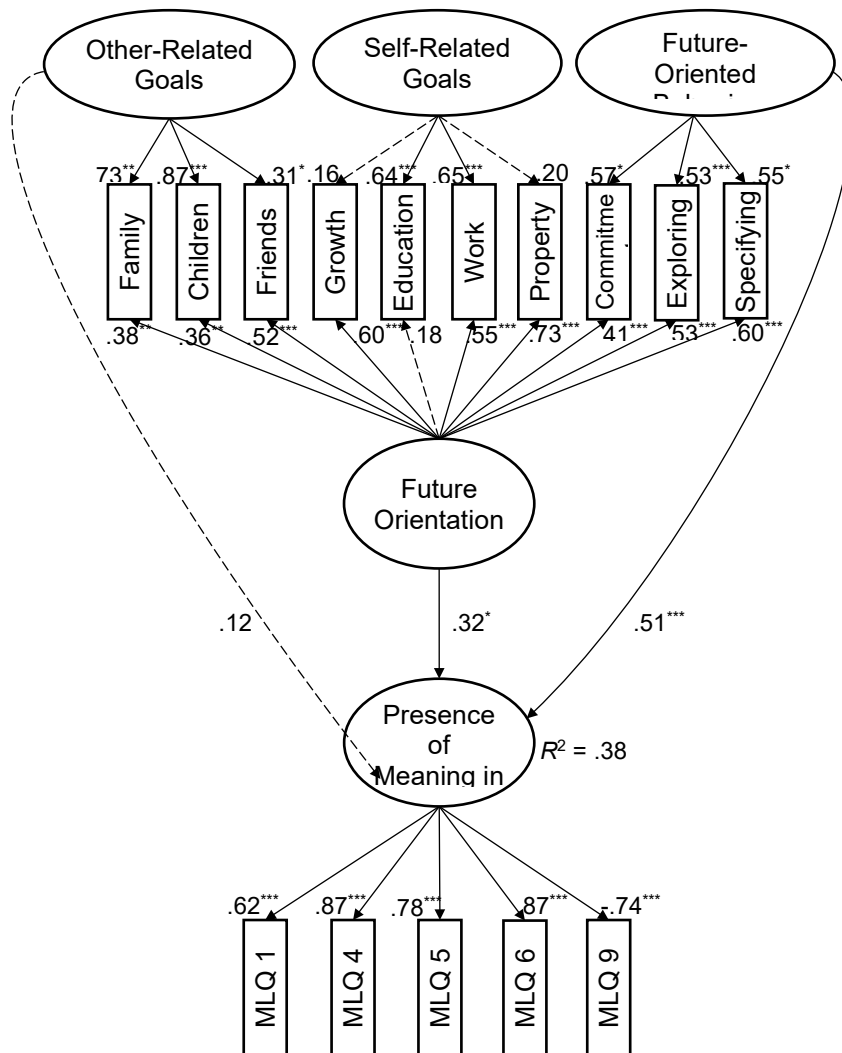

Figure 1 **Predicting the presence of meaning in life by the general factor of future orientation and future-oriented behavior and other-related goals (n = 115; dashed lines present non-significant paths; *** p < .001, ** p < .01, * p < .05)** *(this study)*

Exclusion of specific factors resulted in declining model fit: $\chi^2(81) = 103.31$, $p = .041$, CFI = 0.954, TLI = 0.939, RMSEA = 0.050, 95% CI [.020; .073] $p_{RMSEA} = .474$, and SRMR = 0.065. The fit remained acceptable, and the percentage of explained variance decreased only by 7%. It confirmed the significance of the general factor of future orientation.

Simultaneously, the effect of future-oriented behavior on the presence of meaning in life was higher than the effect of the general factor when the specific factor was linked to the outcome. However, after removing this specific effect, the general factor predicted the presence of meaning at a relatively high level ($\beta = .56$, $p < .001$).

Discussion

The analysis confirmed that future orientation results from complex interactions among general goal-orientedness (Seginer, 2009) and other constructs, adding to the general factor. The results of confirmatory factor analysis, reliability indices, and prediction of the meaning in life demonstrated that the general factor could represent the presence of future orientation in all selected items. However, a more comprehensive view should include specific factors, loading some items simultaneously with the general one.

Other-oriented goals form the content of a specific domain in the future orientation. It potentially links to individual socialization in the reproductive field (Nurmi, 2004) because the specific factor loads children- and family-related goals more than the general one.

Another specific factor included exploring goals and their specification. It forms an exploratory part of the behavioral component of future orientation (Seginer, 2009). It also indicates a possible link of future orientation to the process of channeling, which is associated with exploring opportunities for goal setting and fulfillment (Nurmi, 2004). Simultaneously, the expected positive role of this specific factor in predicting the awareness of the meaning in life points to its relationships with purpose in life (Baumeister & Wilson, 1996). Moreover, according to Baumeister and Wilson (1996), satisfying the need for efficacy in attaining personal goals forms another basis for a meaningful life, which can link to the agency.

The revealed complex structure is in line with the conclusions of Andre et al. (2018) on a complex approach to future views that remains a challenge for research on positive outcomes of future-orientedness. Positive associations of the general factor and future-oriented behavior with awareness of the meaning in life confirm the effect of both – future orientation in general and the additional factor of exploration of opportunities and striving for purpose and efficacy in pursuing personal goals.

It should be noted that the present study has various limitations. A relatively homogeneous sample of university students potentially affected the role of education-related goals in the context of future orientation. A broader sample of respondents could be helpful for the further examination of this kind of goal. A small number of participants completing MLQ allowed for exploring the links between these constructs. However, a more powerful investigation should involve

a sample of over 256 participants. The effect of self-oriented goals, predominantly explained by the general factor, can associate with cultural differences and should be explored in the context of individualism and collectivism.

Conclusions

The revealed complex structure of future orientation is in line with its nature. Integrating the general factor and additional effects of specific factors, the bifactor model reflects a complex interaction of future-orientedness with socialization processes. The links of future orientation to the awareness of meaning in life emphasize the significance of future views in strengthening the sense of purpose and efficacy.

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