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Psychometric Properties of Czech Versions of Academic and Social Selection, Optimization and Compensation Questionnaires

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The study deals with the psychometric characteristics of the Czech versions of Academic and Social Selection, Optimization, and Compensation (SOC) questionnaires. Self-report data were collected in a sample of 618 university students aged between 19 and 30 years. McDonald's omega coefficient was used for reliability estimation; construct validity was tested by confirmatory factor analysis and principal component analysis. Criterion validity was tested in a series of regression analyses. The instruments showed adequate reliability, ranging from 0.73 to 0.84 for Academic SOC and from 0.70 to 0.79 for Social SOC scales. Confirmatory factor analysis did not corroborate the original model proposed by Geldhof et al. (2012), except for the Loss-Based Selection factor. Post-hoc exploratory principal component analysis further supported these results. It turned out that the items were clustered according to different criteria compared to the original dimensions. Our results are in line with more recent findings, pointing to differences in the structure and employment of SOC strategies in young and older adults. We recommend that the Academic and Social SOC are revised in accordance with these recent findings and other methodological considerations.

Key words: selection, optimization, compensation, SOC model, intentional self-regulation

Intentional self-regulation refers to deliberate planning of ways to attain goals, making choices and regulating one's own behavior. One of the most influential recent models of intentional self-regulation has been the Selection, Optimization and Compensation (SOC) model introduced by Baltes and his colleagues (1999) as a part of their life-span approach to successful development. The SOC model represents successful development as dynamics between gains and losses. Success, or gain, is understood as the attainment of a goal. Successful development results from the ability to minimize losses and maximize gains. Selection, optimization and compensation are processes that make it possible to achieve set

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goals despite the inevitable losses that come with ageing. Previous studies showed that selection, optimization and compensation are positively linked to life satisfaction, positive emotions and psychological well-being and are often studied as subjective indicators of successful life management. The SOC model thus provides a general framework for the understanding of developmental change and resilience across the lifespan (e.g., Chou & Chi, 2001; Freund & Baltes, 2002a). With its focus on the structure of goals and means to achieve them, the SOC model overlaps with the goal systems theory (Kruglanski et al., 2002); the focus on life-span aspects of self-regulation, on the other hand, makes it comparable to the theory of assimilative-accommodative mastery (Brandtstädter & Rothermund, 2002) and the theory of primary-secondary control (Heckhausen & Schulz, 1995). The SOC model, however, is more holistic and integrative than either of these theories.

Within the SOC model, goal *selection* involves the pursuit of goals that determine the individual life course. The model describes two types of selection: *elective selection* – a process of choosing a specific goal from a wide range of options associated with growth – and *loss-based selection*, which involves reprioritization of goals and outcomes in situations when people are losing important resources like abilities or social networks. *Optimization* helps to achieve selected goals by enhancing resources and increasing reserves, which improve individual functioning in various life domains. *Compensation* emerges when one's abilities and resources no longer suffice to allow attainment of the selected goal. In such cases, people might attempt to maintain the original goal by trying out alternative paths and resources to compensate deficits in ability and possibilities offered by the environment. If neither of these efforts lead to a desirable outcome, the individual selects a new goal (*loss-based selection*; Freund & Baltes, 2002a).

Selection, Optimization and Compensation in The Life-Span View and Their Measurement

The relative employment of the SOC strategies changes across the life span. These changes are determined, among other things, by changes in goals and in the ways they are selected. One factor affecting the stability of SOC strategies is the proportion of gains and losses (Freund & Baltes, 2002a). In childhood, people encounter relatively few losses compared to adulthood, which is why SOC strategies are believed to only start to differentiate during adolescence. This is the main reason loss-based selection is sometimes excluded from studies regarding adolescent self-regulation (Gestsdottir et al., 2015). In general, the majority of research on SOC strategies focuses on older adults, in whom loss is much more prevalent than in younger persons (Segura-Camacho et al., 2018). According to some researchers (e.g., Geldhof et al., 2012), the nature of SOC strategies, especially those connected to loss (i.e., loss-based selection and compensation), might be qualitatively different in younger compared to older populations.

Researchers studying SOC strategies use several different ways to capture the construct. The most widely used method is measurement through self-reports. Some authors have also employed qualitative interviews (Müller et al., 2013), proverb analysis (Freund & Baltes, 2002b), or explored the relationship between resource availability and functioning (Freund, 2006). The original SOC questionnaire (Baltes et al., 1999) consists of 48 items evenly representing all strategies. The domain-general items are presented in a forced-choice format (SOC vs. non-SOC behavior).

However, researchers often prefer to use different adaptations that are briefer (Freund & Baltes, 2002a), employ unipolar Likert scale responding (Zacher & Frese, 2011), or focus on a specific life domain (Zacher & Frese, 2011; Wiese et al., 2000). All of these modifications were incorporated in the Academic and Social SOC questionnaires designed by Geldhof et al. (2012).

Academic and Social SOC Questionnaires

The original SOC questionnaire focused especially – and was tested – on general adult population or older adults (Baltes et al., 1999). Subsequent studies also focused predominantly on middle-aged or older adults or on adult samples with a wide age range (Segura-Camacho et al., 2018; Zacher & Frese, 2011). Reflecting the fact that life goals in adolescence and early adulthood arise in specific life domains different from those that become relevant later in life, Geldhof et al. (2012) designed two measures of SOC strategies for late adolescents and young adults, focused on the academic and social domains. Apart from domain-specificity, the measures differ from the original SOC questionnaire by using a unipolar Likert-type scale rather than forced-choice responding.

Stemming from the SOC model, the Academic and Social SOC scales were constructed with the original four dimensions in mind. In the Academic SOC, *elective selection* concerns prioritizing, selection and specification of academic goals. *Optimization* involves attention focus, planning, acquiring and refining of means relevant for academic performance. *Compensation* involves substitution of means in response to failure at school, flexibility in acquiring new skills and willingness to seek and receive outside help. *Loss-based selection* consists in restructuring and reorienting of the original academic goals and finding new goals to replace unachievable ones. Within the Social SOC, *elective selection* concerns prioritizing friendships and creating new ones. *Optimization* regards issues like keeping commitments and improving friendships. *Compensation* refers to finding ways to maintain friendships following changes in life conditions, demonstrating flexibility in social skills and resolving conflicts. *Loss-based selection* involves restructuring and reorienting friendships and replacing old friendships with new ones if the old ones can no longer be maintained.

On a sample of college students, Geldhof et al. (2012) showed that the four-factor structure was an acceptable fit for the data in both scales. However, further analyses revealed a lack of differentiation between elective selection and optimization within the Academic SOC, and between optimization and compensation within the Social SOC. The authors therefore combined the respective subscales and worked with three-dimensional measures. They further pointed out a general tendency towards conflation of elective selection, optimization and compensation in both scales, with loss-based selection being the only construct reliably separable from the other three in both instruments. Looking at the actual content of the scale, this lack of differentiation does not seem surprising: If the goal is to be attained effectively, it seems necessary that strategies represented by the individual items across different subscales co-occur. For example, academic elective selection and optimization strategies are both essential aspects of self-regulated learning – one can hardly expect students to view themselves as prioritizing their academic goals if they get easily distracted and lack persistence in goal pursuit. Within the Social SOC, optimization and compensation items both seem to represent various aspects of a more general willingness to make investments in developing

and maintaining friendships. However, more recent findings obtained with domain-general instruments (Gestsdottir et al., 2015) suggest that the conflation of SOC strategies might also be a more general characteristic of adolescence and early adulthood, indicating the nature of intentional self-regulation in these age groups differs from the typical SOC structure observed later in life. Finally, it should be noted that while Geldhof et al. (2012) regarded Social and Academic SOC scales as more appropriate SOC measures in late adolescence and early adulthood due to their focus on the primary domains of self-regulation in these age groups, they also pointed out that the two scales were intended as supplements, rather than replacements, of the existing domain-general SOC questionnaires.

Current Study

The aim of the present study was to test the psychometric properties of the Czech version of the Academic and Social SOC. We focused specifically on internal consistency, construct validity and concurrent validity with respect to measures of self-esteem and self-efficacy. These criterion variables both emerged as significant correlates of SOC dimensions in previous studies. Self-esteem represents one of the dimensions of positive youth development (Geldhof et al., 2012) and is also used as an indicator of subjective well-being (Chou & Chi, 2001; Wiese et al., 2000). According to previous studies focusing on the SOC model in the youth, both self-esteem and SOC strategies contribute to optimal functioning during young adulthood (Freund & Baltes, 2002a; Gestsdottir et al., 2015). However, it has been argued that self-esteem should be considered an outcome variable – and aspect of well-being – enhanced by high self-regulatory capacity, as it does not appear to be associated with positive life outcomes independently of self-regulation (Baumeister et al., 2003). Self-efficacy beliefs are related to the pursuit of goals and persistence. In theoretical models of self-regulation and successful development, self-efficacy is considered to play a major role in bridging the gap between intentions and actual behavior (for a review, see Baltes & Carstensen, 2003; Ziegelmann & Lippke, 2007). As results of previous studies suggest, self-efficacy enhances implementation of SOC strategies in various domains of life, such as work or school (Moghimi et al., 2017, 2021; Wiese & Heidemeier, 2012). However, the two factors are not independent: Since people with well-developed self-regulation strategies are more likely to experience a sense of accomplishment following goal achievement, higher levels of self-efficacy are at least partly expected to result from successful employment of SOC strategies.

Chou and Chi (2001) and Wiese et al. (2000) found correlations ranging from .15 to .35 between self-esteem and domain-general SOC strategies (scales without loss-based selection). The associations were considerably stronger for the domain-specific measures in Geldhof et al.'s (2012) validation study, with correlations with Academic and Social SOC constructs ranging from .41 to .68, except for loss-based selection, which was negatively related to self-esteem (r = -.35 and -.28 for Academic and Social SOC, respectively). This latter, somewhat unexpected finding seems to suggest that loss-based selection – at least as conceptualized by Geldhof et al. – might not represent a positive self-regulation strategy in adolescence and early adulthood and might be associated with negative characteristics, such as perceived incompetence or lack of persistence.

The association between self-efficacy and SOC was examined by Wiese and Heidemeier (2012), who found a positive correlation (r = .25) between self-efficacy and SOC strategy

use in women returning to work after maternity leave. Given the importance of self-efficacy beliefs in self-regulated learning (e.g., Schunk, 1990), we expected that substantial positive relationships would be observed especially between the Academic SOC dimensions and self-efficacy in college students.

Method

Participants

Student participants were recruited at several Czech universities through their instructors, who sent an e-mail with a link to the electronic questionnaire, previously obtained from the authors of the study. Participation was completely voluntary and anonymous. Only forms with at least 75% completed items were included in the data set.

Originally, 689 university students completed the questionnaire, but 71 were discarded due to insufficient data. The final sample thus consisted of 618 students, 158 (25.6%) men and 460 (74.4%) women, aged between 19 and 30 years (M = 21.88; SD = 2.15). Out of these students, 407 (65.9%) majored in social sciences or humanities fields, 114 (18.4%) in engineering, 62 (10.0%) in fields within natural sciences and 35 (5.7%) in unspecified fields.

Measures

The *Academic SOC* (Geldhof et al., 2012) contains 28 items rated on a 7-point Likert-type scale (1 = *not at all*; 7 = *very much*) measuring the use of elective selection (5), optimization (10), compensation (8) and loss-based selection (5 items) in the academic domain. *Academic elective selection* focuses on prioritizing, goal underselection (reverse-coded items) and goal specification. *Academic optimization* is defined as the focus, persistence, acquisition and refining of means and planning. *Academic compensation* involves substitution after loss or failure, flexibility and seeking outside help. *Academic loss-based selection* involves restructuring, reorienting and selecting of new academic goals.

The *Social SOC* (Geldhof et al., 2012) contains 28 items rated on a 7-point Likert-type scale (1 = *not at all*; 7 = *very much*) measuring the use of elective selection (4), optimization (9), compensation (10) and loss-based selection (5 items) in the social domain. *Social elective selection* focuses on prioritizing, goal underselection (reverse-coded) and goal specification. *Social optimization* represents keeping commitments, placing importance on the friend's needs, improving friendships and resolving conflicts in terms of resource allocation. *Social compensation* involves maintaining friendship despite changes of location, personal interests or social group, flexibility in maintaining friendships and resolving conflicts through expending effort. *Social loss-based selection* represents reorienting and selecting new friends.

Both scales were translated from English to Czech by two independent translators. The two translations were subsequently compared and evaluated by members of the research team. A back-translation was provided by a bilingual student. The final version was consulted with an English translator working in the area of psychology. Prior to main data collection, a pilot paper-pencil study was performed with 75 university students. Its aim was to obtain feedback on the Czech translation of both methods (Academic and Social SOC). Based on this feedback, adjustments were made to the wording of several items.

Criterion measures. The *General Self-Efficacy Scale* (Czech version by Křivohlavý et al., 1993) consists of 10 items rated on a 4-point Likert-type scale (1 = *not true at all*; 4 = *exactly true*). The scale measures the self-report-

ed level of general self-efficacy. Psychometric properties of this widely used scale were tested in multiple studies (e.g., Luszczynska et al., 2005), which provided evidence for high reliability and good construct validity.

The *Rosenberg Self-Esteem Scale* (Czech version by Blatný & Osecká, 1994) is a 10-item self-report measure of global self-esteem rated on a 4-point Likert-type scale (1 = *strongly disagree*; 4 = *strongly agree*). The scale is widely used in research on self-esteem, with multiple studies demonstrating its good psychometric properties (e.g., Gray-Little et al., 1997).

Data Analysis

Descriptive analyses, correlation analyses and group comparisons were conducted using IBM SPSS Statistics. Internal consistencies of all scales were assessed using McDonald's omega coefficient computed using the psych package for R (Revelle, 2017). To test the factorial structure of the Academic and Social SOC scales, we conducted a series of confirmatory factor analyses (CFAs). First, Mardia's test of multivariate normality was performed using the MVN package in R (Korkmaz et al., 2014). The results revealed substantial and significant deviations from normality in skewness and kurtosis for both ASOC and SSOC (all *p*s < 0.001). We therefore conducted the CFAs with Satorra-Bentler robust maximum-likelihood estimation (Satorra & Bentler, 1994). The method has been shown to provide unbiased standard error estimates with Likert-type items with at least 5 options, while also performing relatively well under violations of normality in the research sample (Bovaird & Koziol, 2012). The analyses were conducted using the lavaan package in R (Rosseel, 2012). Apart from chi-square tests, Root Mean Square Error of Approximation (RMSEA) with 90% CIs (acceptable fit < .06; UCI < .10), Comparative Fit Index (CFI; acceptable fit > .95) and Tucker Lewis Index (TLI; acceptable fit > .95, Hu & Bentler, 1999) were used to assess model fit.

For post-hoc exploration of the factorial structures of Academic and Social SOC, we conducted two principal component analyses (PCA) using the IBM SPSS Statistics software. To determine the number of factors to extract, we employed Horn's (1965) Parallel Analysis and Velicer's (1976) minimum average partial (MAP) method. Criterion validity of the original scores compared to the new scores based on the results of the PCA was tested in a series of regression analyses conducted in R using the lavaan package. The models were compared using the amount of variance explained (R^2) in the criterion variables (self-efficacy and self-esteem) and the Bayesian Information Criterion (BIC).

Results

Descriptive Statistics, Reliability Analysis, and Preliminary Correlation Analysis

Descriptive statistics are displayed in Table 1. The values of skewness indicated slight negative skew in most scales; however, none of the distributions deviated substantially from normality (Field, 2013). Reliability analysis (Table 2) revealed acceptable values of internal consistency coefficients for all Academic and Social SOC subscales. However, four subscales were also found to contain problematic items that were weakly correlated with the rest of the subscale compared to the other items, and removing them improved overall internal consistency. These included one reverse-scored item in the Academic Optimization subscale and another one in the Social Compensation subscale, two items in the Academic Compensation subscale describing help-seeking behavior and one additional item in the Social Elective Selection subscale.

Table 1 *Descriptive statistics of the original subscales of the Academic and Social SOC scales, the General Self-Efficacy Scale and the Rosenberg Self-Esteem Scale*

	No. of items	*M*(*SD*)			Skewness (*SE*)	Kurtosis (*SE*)
		Total (*n* = 618)	Men (*n* = 158)	Women (*n* = 460)		
Academic SOC						
Elective selection	5	22.37 (5.56)	22.23 (5.90)	22.42 (5.45)	-.15(.10)	-.26(.20)
Optimization	10	47.99 (8.53)	47.59 (8.71)	48.12 (8.47)	-.27(.10)	.21(.20)
Compensation	8	38.91 (7.32)	37.65 (7.77)	39.35 (7.12)	-.37(.10)	.22(.20)
Loss-based selection	5	20.88 (5.59)	19.83 (5.86)	21.24 (5.45)	-.29(.10)	-.23(.20)
Social SOC						
Elective selection	4	19.28 (4.62)	18.90 (4.74)	19.42 (4.57)	-.32(.10)	-.50(.20)
Optimization	9	51.85 (5.69)	50.20 (6.00)	52.42 (5.47)	-.56(.10)	.71(.20)
Compensation	10	51.83 (7.23)	49.94 (7.16)	52.49 (7.14)	-.30(.10)	.16(.20)
Loss-based selection	5	19.02 (5.62)	18.58 (5.49)	19.18 (5.67)	.05(.10)	-.12(.20)
Self-efficacy	10	29.10 (4.94)	30.72 (4.79)	28.54 (4.87)	-.34(.10)	.47(.20)
Self-esteem	10	29.01 (6.42)	30.27 (6.28)	28.58 (6.42)	-.26(.10)	-.69(.20)

Confirmatory Factor Analysis

To examine the construct validity of the Academic and Social SOC scales, we started by testing the original four-factor structures in both scales, which we intended to compare with more parsimonious three-factor and two-factor models to verify the separability of the Elective Selection, Optimization and Compensation constructs. Table 3 shows CFA results for the Academic SOC. The original four-factor model with correlated factors and uncorrelated residuals (Model 1) exhibited poor fit. Removing the problematic items identified in the reliability analysis did improve the fit (Model 2), but the values were still far from acceptable. Moreover, consistently with Geldhof et al. (2012), the Elective Selection factor correlated strongly with the Optimization factor (Table 5), suggesting poor distinction between the two constructs. Inspection of residuals revealed multiple residual correlations between item indicators.

Similar results were obtained for the Social SOC scale. As shown in Table 4, the original four-factor model exhibited poor fit regardless of whether the problem items identified

Table 2 *Results of internal consistency analyses of all measures*

	No. of items	McDonald's ω total	Item correlations		Problem items*
			Min *r*	Max *r*	
Academic SOC					
Elective selection	5	.82	.17	.59	-
Optimization	10	.88	.11	.75	10R
Compensation	8	.92	.13	.76	20, 23
Loss-based selection	5	.85	.37	.62	-
Social SOC					
Elective selection	4	.77	.12	.79	3
Optimization	9	.83	.10	.55	-
Compensation	10	.83	.12	.66	4R
Loss-based selection	5	.86	.23	.71	-
Self-efficacy	10	.91			-
Self-esteem	10	.88			-

Note. * Removal of these items improved the internal consistency of the scale.

Table 3 *Results of confirmatory factor analysis of the Academic SOC*

	χ^2	df	*p*	CFI	TLI	RMSEA	SRMR	BIC
Model 1	2060.05	344	< .001	.72	.69	.10 [.10, .11]	.10	55632.25
Model 2	1490.05	269	< .001	.78	.76	.10 [.09, .10]	.09	48854.01

Note. Model 1 = all items included; Model 2 = items 10, 20 and 23 excluded.

Table 4 *Results of confirmatory factor analysis of the Social SOC*

	χ^2	df	*p*	CFI	TLI	RMSEA	SRMR	BIC
Model 1	1319.77	344	< .001	.78	.76	.08 [.07, .08]	.08	52813.06
Model 2	1122.61	293	< .001	.80	.78	.08 [.07, .08]	.07	52454.48

Note. Model 1 = all items included; Model 2 = items 3 and 4 excluded.

Table 5 *Standardized covariations between factors in original four-factor solutions for Academic and Social SOC*

	Academic SOC				Social SOC			
	ES	O	C	LBS	ES	O	C	LBS
ES	-	.90	.47	-.27	-	.30	.24	.19
O	.90	-	.63	-.08	.31	-	.82	-.19
C	.48	.62	-	.26	.26	.81	-	-.34
LBS	-.27	-.10	.27	-	.18	-.20	-.36	-

Note. For both scales, results for Model 1 (all items included) are displayed below the diagonal, while results for Model 2 (problem items removed) are displayed above the diagonal.
ES = Elective Selection; O = Optimization; C = Compensation; LBS = Loss-Based Selection

through the reliability analysis were retained (Model 1) or excluded (Model 2). Correlations between the factors revealed substantial conflation of the Optimization and Compensation factors, which was, again, consistent with the findings reported by Geldhof et al. (2012).

Taken together, these results indicated that the original division of items into four subscales did not match the underlying latent factorial structure of either Social or Academic SOC. For this reason, rather than proceeding with the intended comparisons with more parsimonious models, we conducted a principal component analysis (PCA) to examine the actual underlying factorial structure in our data and explore the sources of residual correlations. PCA was used because it is the technique of dimension reduction for which the number of components can reliably be estimated using Parallel Analysis. Since the distributions of items into factors obtained through exploratory factor analysis (EFA), using both the maximum likelihood method and the principal axis factoring method, were identical to those obtained through PCA, we are reporting the results of PCA here.

Principal Component Analysis

For Academic SOC, Parallel Analysis and MAP both indicated five components to retain, which together explained 57.9% of variance in our data. Factor loadings for this solution after Oblimin rotation are displayed in Table 6, which also contains labels to briefly characterize each component. Oblimin rotation was used because the SOC characteristics are expected to be correlated. As expected based on the previous analyses, Loss-Based Selection emerged as the most coherent construct, with all original items loading on Component 2 ("Low Goal Priority") without any substantial cross-loading. However, several other, mostly reverse-scored, items also loaded positively on this component, rather than clustering with items from the subscales they were originally assigned to. In general, items from the Elective Selection, Optimization and Compensation subscales were not grouped according to the originally proposed structure but were rearranged in four positively correlated components (Table 7). Component 2 stood out by being virtually unrelated to the other components except for Component 4 ("Goal Focus"), to which it was negatively related (Table 7).

For Social SOC, Parallel Analysis and MAP also revealed five stable components. These components together explained 50.6% of variance in the data. The obliquely rotated solution is shown in Table 8, which indicates that the factorial structure of Social SOC corresponded more closely to the originally proposed model compared to Academic SOC. Four of the five components were defined almost exclusively by items belonging to the four respective scales. However, the analysis also revealed one additional component that brought together similar proportions of Optimization and Compensation items. The three components defined by the Optimization and Compensation items were all moderately positively related, while the Elective Selection component ("Forming Friendship") showed only weak relationships with the other components (Table 9). In Academic SOC, Loss-Based Selection (Component 2 "Replacing Friendship") emerged as the most coherent construct, unrelated or weakly negatively related to the other components.

The lack of differentiation between the Elective Selection, Optimization, and Compensation constructs within Academic SOC, and between the Optimization and Compensation constructs in Social SOC, were consistent with the findings of Geldhof et al. (2012). Since results of exploratory dimension reduction analyses can be strongly affected by spe-

Table 6 *Results of principal component analysis of Academic SOC after Oblimin Rotation – pattern matrix*

		5-factor solution					2-factor solution	
		Loadings (% var.)					Loadings (% var.)	
Item	Original scale	1. (Resources)	2. (Low goal priority)	3. (Flexibility)	4. (Goal focus)	5. (Help-seeking)	1. (Academic self-regul.)	2. (Low goal priority)
		(27.0%)	(14.5%)	(6.2%)	(5.4%)	(4.8%)	(27.0%)	(14.5%)
ASOC13	O	.820					.634	
ASOC16	O	.800					.644	
ASOC14	C	.694					.555	
ASOC17	C	.537		-.428			.720	
ASOC19	O	.318	-.309				.673	
ASOC22	O	.316					.669	
ASOC28	LBS		.773					.731
ASOC18	LBS		.765					.753
ASOC24	LBS		.715					.712
ASOC12	LBS		.674					.643
ASOC6	LBS		.637					.568
ASOC9 (R)	ES		.532					.505
ASOC15 (R)	ES		.419		-.320		-.403	.471
ASOC10 (R)	O		.389					.414
ASOC7	O		-.330				.584	
ASOC8	C			.861			.711	.301
ASOC5	C			.860			.682	
ASOC2	C			.855			.631	
ASOC11	C			.814			.671	.320
ASOC4	O				.815		.475	
ASOC1 (R)	O				-.763		-.404	.306
ASOC26	ES	.332			.605		.689	
ASOC3	ES				.557		.591	
ASOC27	O	.336			.505		.599	
ASOC25	O	.419			.443		.618	
ASOC21	ES				.440		.516	
ASOC20	C					.920	.354	
ASOC23	C					.920	.307	

Note. ASOC = Academic SOC; ES = Elective Selection; O = Optimization; C = Compensation; LBS = Loss-Based Selection

Table 7 *Correlations between components obtained through PCA of Academic SOC*

	C1	C2	C3	C4	C5
Component 1	-				
Component 2	-.044	-			
Component 3	.411	.046	-		
Component 4	.338	-.243	.336	-	
Component 5	.302	.056	.205	.171	-

cific characteristics of the sample and cannot be generalized without confirmation by other data sets, we conducted another set of PCAs with respectively reduced numbers of factors for each scale to see how the items would cluster if a lack of differentiation proposed by Geldhof et al. (2012) was assumed. The results are reported in the rightmost columns of Tables 6 and 8. For Academic SOC, Loss-Based Selection items, together with several reverse-scored items, formed a separate component, with the rest of the scale loading together on another component. The two components were virtually unrelated (r = -.03). For Social SOC, the Elective Selection (Component 3) and Loss-Based Selection (Component 2) subscales remained relatively well defined, while the Optimization and Compensation items clustered together (Component 1). Components 1 and 3 were weakly positively related (r = .27), while Component 2 was negatively related to Component 1 (r = -.24) and virtually unrelated to Component 3 (r = .06).

Regression Analysis: Prediction of Self-Efficacy and Self-Esteem

Based on the results of PCA, we computed two new sets of scores for both Academic and Social SOC, one based on the 5-component model, the other on the 2-component (Academic SOC) and 3-component (Social SOC) model. All items were included and were assigned to individual scores depending on their highest loading. These scores were then entered into a series of regression analyses to test and compare their predictive power with respect to self-efficacy and self-esteem.

Results for Academic SOC are displayed in Table 10. Academic SOC scores were stronger predictors of self-efficacy compared to self-esteem. As indicated by the values of BIC and R^2, the models with more parsimonious scoring generally predicted less variance than models with more nuanced scoring. However, somewhat surprisingly, a recalculation of scores based on PCA had relatively little impact on the predictive power of the Academic SOC scale, except for the 5-component model predicting self-efficacy. "Goal Focus" (Component 4), composed of several elective selection and optimization items, was the strongest predictor of both self-efficacy and self-esteem. Self-efficacy was also significantly positively predicted by "Flexibility" and negatively predicted by "Help-Seeking". It should be noted that there were significant first-order correlations between self-efficacy and self-esteem and all recalculated scores except "Help-Seeking" (Table D in Online Supplement); however, none of these relationships remained significant after controlling for "Goal focus".

Recalculating scores proved more beneficial in models predicting self-efficacy and self-esteem from Social SOC scores, although the associations were generally weaker compared to Academic SOC (Table 11). "Forming Friendships", composed of three Elective Selection items, was the strongest predictor of self-effi-

Table 8 *Results of principal component analysis of Social SOC after Oblimin Rotation – pattern matrix*

		5-factor solution					3-factor solution		
		Loadings (% var.)					Loadings (% var.)		
Item	Original scale	1. (Effort)	2. (Replacing friendships)	3. (Forming friendships)	4. (Commitment)	5. (Overcoming differences)	1. (Maintain. friendships)	2. (Replacing friendships)	3. (Forming friendships)
		(23.0%)	(10.8%)	(6.6%)	(5.5%)	(4.6%)	(23.0%)	(10.8%)	(6.6%)
SSOC22	C	.735					.792		
SSOC19	C	.722					.710		
SSOC20	O	.695					.545		
SSOC23	O	.653					.665		
SSOC1	C	.608					.563		
SSOC17	O	.526			.317		.696		
SSOC14	O	.483			.320		.690		
SSOC4 (R)	C	-.404	.385					.330	
SSOC3	ES	.303					.414		
SSOC6	LBS		.792					.761	
SSOC12	LBS		.712					.740	
SSOC18	LBS		.699					.642	
SSOC27	LBS		.672					.704	
SSOC24	LBS		.630					.640	
SSOC28 (R)	C		*.291*					.321	
SSOC21	ES			.867					.878
SSOC15	ES			.829					.850
SSOC9 (R)	ES			-.691					-.693
SSOC2	O				.680		.412		
SSOC5	O				.666		.610		
SSOC26	O				.661		.350		
SSOC11	O				.484		.615		
SSOC8	O				.454		.371		
SSOC25	C				.332		.456		
SSOC10	C					.730	.467		
SSOC13	C					.700	.395		
SSOC16	C					.670	.375		
SSOC7	C					.652	.399		

Note. SSOC = Social SOC; ES = Elective Selection; O = Optimization; C = Compensation; LBS = Loss-Based Selection

Table 9 *Correlations between components obtained through PCA of Social SOC*

	C1	C2	C3	C4	C5
Component 1	-				
Component 2	-.143	-			
Component 3	.190	.048	-		
Component 4	.306	-.088	.142	-	
Component 5	.331	-.255	.081	.316	-

Table 10 *Comparison of different models of Academic SOC in terms of prediction of general self-efficacy and self-esteem*

		General self-efficacy			Self-esteem		
	Model	*β*	R^2	BIC	*β*	R^2	BIC
1	Original scores		.194	3624.87		.126	3999.45
	Elective selection	.28**			.32**		
	Optimization	.19**			.07		
	Compensation	.03			-.02		
	Loss-based selection	.01			.04		
2	2 scores – original LBS		.174	3627.33		.093	4009.73
	Collapsed ES + O + C	.41**			.30**		
	Loss-based selection	-.07			-.05		
3	5 scores based on PCA[a]		.230	3602.90		.128	4004.76
	Resources	.06			-.05		
	Low goal priority	-.05			-.06		
	Flexibility	.12**			.08		
	Goal focus	.36**			.33**		
	Help-seeking	-.14**			-.05		
4	2 scores based on PCA[a]		.176	3625.50		.092	4010.12
	Academic self-regulation	.39**			.27**		
	Low goal priority	-.11**			-.10**		

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

[a] Scores computed from all items (assigned to scores based on relative loading size).

cacy and self-esteem in all models with recalculated scores. In the five-score model, "Commitment" was also a positive, albeit much weaker, independent predictor. The negative beta weights of "Effort" were apparently a result of statistical suppression. All scores except "Replacing Friendships" showed significant positive first-order correlations with the criterion variables (Table D in Online Supplement); however, most of these associations were explained by "Forming Friendships".

Discussion

The objective of the present study was to assess the psychometric properties – internal

Table 11 *Comparison of different models of Social SOC in terms of prediction of general self-efficacy and self-esteem*

		General self-efficacy			Self-esteem		
	Model	*β*	R^2	BIC	*β*	R^2	BIC
1	Original scores		.089	3700.56		.120	4003.78
	Elective selection	.26**			.32**		
	Optimization	.09			.02		
	Compensation	-.03			.03		
	Loss-based selection	.06			.01		
2	3 scores – original LBS		.086	3696.10		.120	3997.36
	Elective selection	.26**			.32**		
	Collapsed O + C	.05			.05		
	Loss-based selection	.07			.01		
3	5 scores based on PCA[a]		.111	3692.09		.156	3984.30
	Effort	-.09			-.11*		
	Replacing friendships	.07			-.02		
	Forming friendships	.27**			.35**		
	Commitment	.12*			.13**		
	Overcoming differences	.07			.06		
4	3 scores based on PCA[a]		.096	3689.33		.140	3982.95
	Maintaining friendships	.06			.03		
	Replacing friendships	.06			-.04		
	Forming friendships	.28**			.36**		

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

[a]Scores computed from all items (assigned to scores based on relative loading size).

consistency, construct validity and criterion validity – of the Czech translations of the Academic and Social SOC questionnaires, originally developed by Geldhof et al. (2012). In their study, Geldhof et al. concluded that the factorial structures corresponded reasonably well with the original SOC dimensions, but that some of the dimensions were poorly differentiated. In contrast, our results did not provide sufficient evidence for the construct validity of the Czech version of the scales as defined either by the SOC model or by Geldhof et al.'s proposed alternative structure. While the results of CFA did indicate a conflation between the Elective Selection and Optimization factors in Academic SOC and the Optimization and Compensation factors in Social SOC corresponding to the findings of the original validation study, both the original 4-dimensional model and the revised 3-dimensional model were a poor fit for our data. Further analyses revealed two main sources of misfit. First, several items, mostly the reverse-scored ones, turned out to be generally problematic, decreasing the internal consistency of their respective subscales. Second, and more importantly, there were numerous residual covariances between items both within and across dimensions, indicating that the underlying factorial structures differed

substantially from the ones we tested. This idea was corroborated by the results of subsequent exploratory PCA. For Academic SOC, Elective Selection, Optimization and Compensation items were distributed into four mutually correlated components that did not correspond to the originally proposed scores at all. For Social SOC, PCA results were more in line with the proposed structure; however, several Optimization and Compensation items grouped together to form a separate fifth component. In both scales, Loss-Based Selection turned out to be the most coherent construct. However, especially in Academic SOC, reverse-scored items from the other subscales also loaded on this component.

While at first glance our results might seem at odds with the conclusions of previous research, it needs to be pointed out that the original validation study by Geldhof et al. (2012) was conducted on a very small (n = 152) and homogeneous sample with a planned missingness approach, which we believe was highly likely to affect the generalizability and replicability of the findings. Interestingly, our results seem to be more in line with the findings of later psychometric studies (Geldhof et al., 2015a, 2015b) on much larger adolescent samples with different variants of the general SOC questionnaire (Baltes et al., 1999; without Loss-Based Selection). Not only did these studies provide evidence for the conflation of the SOC dimensions in adolescence, but they also found that getting outside help stood separately from the rest of SOC, and that another separate "method" factor accounted for the effect of reverse scoring. These latter findings are in line with our observations that "help-seeking" and reverse-scored items were sources of model misfit in Academic SOC and only weakly related to the rest of the scale. Another similarity between these psychometric studies (Geldhof et al., 2015a, 2015b; Gestsdottir et al., 2015) and our findings is the separation of the general "intentional self-regulation" construct, grouping mostly Optimization and Compensation items, and the Elective Selection factor, which can be observed in our study especially with the Social SOC scale. We discuss the implications of the observed factorial structures below; however, we need to stress first that our findings clearly point at psychometric problems with the ASOC and SSOC scales and the purpose of our exploratory analyses was not to provide an alternative model for conceptualizing and measuring intentional self-regulation in young adults, but rather to explore and discuss possible sources of misfit in the current instrument.

Examining the components of Academic and Social SOC obtained in PCA as predictors of self-efficacy and self-esteem provided us with more information on the nature of differences between the individual dimensions. For both scales, it turned out that while the obtained constructs – except for Loss-Based Selection – were positively related, they did not seem to play equal parts in self-efficacy and self-esteem as indicators of positive development. For Academic SOC, it was mainly items representing focus on academic goals and tasks that were significantly related to these indicators. In contrast, exploration of different strategies to achieve a goal – whether to optimize current progress or to compensate for failure – played a much less important role. This difference seems to reflect the common understanding of academic self-regulation as the ability to focus on one's study tasks and fend off procrastination. In contrast, trying out multiple different strategies in this context can even prove counterproductive and be a sign of disorganization or reliance on external factors to maintain one's motivation. In the case of Social SOC, self-efficacy and self-esteem were positively predicted by the ability to form friendships (Elective Selec-

tion items) and, to a lesser extent, to prioritize friends' needs, but were not independently predicted by the effort to "keep a friendship alive". Loss-Based Selection strategies were either unrelated or even weakly negatively related to self-efficacy and self-esteem. While the associations reported here cannot be generalized beyond our sample, one can speculate based on our data that the SOC strategies, although correlated, may differ in the ways they serve the purpose of effective functioning in a particular life domain in adolescence or young adulthood.

There are several conceptual and methodological issues regarding the Academic and Social SOC questionnaires that might have significantly influenced the latent structures observed in our study and go beyond potential problems associated with linguistic adaptation. First, the measures were largely based on the idea that some dimensions of the SOC model should be redefined for adolescent and young adult respondents (Geldhof et al., 2012). Originally, it was proposed that SOC strategies differentiate over the lifespan (Freund & Baltes, 2002a). In this view, people in adolescence are merely starting to explore potential identities and criteria by which to select long-term goals. Adaptive functioning at this stage therefore might not be necessarily characterized by focus on a small number of specific, well-defined goals. Moreover, compensation and loss-based selection are only expected to emerge as self-regulation strategies later in life, when individuals pursuing their previously selected goals are gradually confronted with obstacles stemming from developmental losses. In contrast to this perspective, Geldhof et al. (2012) argued that even in adolescence and young adulthood there were specific domains of functioning – namely academic performance and peer relations. In these domains, people are likely not only to benefit from an intentional focus on well-defined goals, but also to employ compensation and selection strategies analogous to those used by older adults when goal progress is halted. The difference, the authors suggested, was that adolescents and young adults might be more likely to use compensatory strategies in response to failure rather than actual developmental loss. However, by proposing such qualitative differences between SOC strategies in early and later adulthood, Geldhof et al. (2012, 2015b) appear to have abandoned the original definition, and the question arises whether constructs such as academic Loss-Based Selection still represent adaptive self-regulation strategies and not maladaptive characteristics such as low persistence or low self-efficacy. The lack of positive relationships of academic and social Loss-Based Selection to the other SOC constructs, self-efficacy and self-esteem suggests that these different aspects might indeed be confounded by these measures. This problem with construct validity was already indicated in Geldhof et al.'s (2012) study, in which academic and social Loss-Based Selection scores were actually negatively related to general Loss-Based Selection/Compensation, which, in turn, were positively related to Elective Selection and Optimization in domain-specific and domain-general scales. We believe that while the general idea that the SOC strategies in young adults might be more differentiated in some domains than others might be viable, any attempts at redefinition of the original SOC constructs should only follow after a rigorous theoretical analysis with reference to similar constructs.

Another potential reason why responses in Academic and Social SOC might reflect different characteristics than intended is the employment of a unipolar Likert response scale as opposed to the binary format used with the general SOC. Geldhof et al. (2015b) attempted to defend the use of a unipolar response scale

by arguing that "in adolescence and early adulthood, SOC and non-SOC behaviors might not be incompatible" (p. 173), and therefore should not be presented as opposites. However, this raises the question of how a low rating of such an item would then be understood by the respondent and, once again, to what extent the constructs measured by such scales would overlap with those originally defined by Baltes et al. (1999). The correlations between parallel forced-choice and unipolar general SOC scales reported by Geldhof et al. (2015a) seemed far too low to provide evidence of concurrent validity (i.e., r = .36). Additionally, the unipolar items in the Academic and Social SOC scales are formulated in a way that blurs the distinctions between the content of items from different subscales. For example, the compensation item "*I try different ways to reach an academic goal*" was strongly related to the optimization item "*I acquire the means needed to reach my academic goals*" in our study, suggesting the participants perceived the two processes as barely distinguishable. The difference would have been made much clearer if the opposites were defined for both statements. In fact, in many cases the lower end of the scale might be essential in resolving ambiguity and determining which of the SOC constructs is measured.

To summarize, our findings, in the context of previous findings and postulates regarding the nature of the SOC strategies, seem to indicate that the current Academic and Social SOC scales do not exhibit sufficient construct validity with respect to either the original, or the recently modified SOC model. The factorial structure does not seem to correspond to the original SOC dimensions, and several items appear to be problematic, showing weak correlations with the rest of the scale. Possible reasons for this include high ambiguity (e.g., *"I can easily prioritize my friendships"* can mean several different things in Czech) or strong reference to a specific type of behavior that might be affected by individual or social factors unrelated to self-regulation (e.g., items regarding help-seeking). Moreover, the constructs measured by the two scales in our study showed relatively poor and inconsistent criterion validity with respect to self-efficacy and self-esteem as indicators of adaptive functioning.

In conclusion, our findings seem to indicate that the present problems with the scale cannot be resolved by minor adjustments, but a more complex revision of the instrument might be needed, which would take into account both theoretical and linguistic considerations to avoid ambiguity and semantic conflation of items selected for conceptually different dimensions. We believe that the employment of unipolar scales might by itself undermine the construct validity of SOC measures and render the findings obtained with such measures incomparable with those obtained with the standard forced-choice SOC scales used with older age groups. For future research, we therefore suggest items with bipolar (comparative) scales to be formulated for each dimension to make sure each item is a valid measure of a particular SOC strategy, and the risk that each statement is understood differently by different respondents is minimized. Such an instrument could be compared with the original unipolar domain-specific scales in terms of consistency with proposed theoretical structures and expected associations with positive outcomes. To determine whether SOC strategies in specific, narrowly defined domains in adolescence and early adulthood may be adaptively employed analogously to the more general manner later in life, one needs to make sure the constructs captured by the instruments on both parts are indeed analogous.

The findings of our present study have to be considered from the perspective of several

limitations. First, as already indicated above, it is possible that translation of the instruments into Czech may have affected their validity. While standard steps have been taken to ensure linguistic equivalence, and the scale has been piloted on an appropriate sample, the rather vague, broad formulation of some items in Czech might have caused confusion regarding what was actually meant by each statement. The second major limitation of our study were the characteristics of our sample, which, while much larger and more diverse compared to Geldhof et al.'s (2012) study, was still not sufficiently representative to draw reliable conclusions about the structure of the tested instruments, as both academic and social domains are likely to be affected by both field of study and gender. Finally, more relevant information regarding the construct and criterion validity of the domain-specific SOC measures would have been obtained if we included a domain-general measure of SOC strategies in our study. This might be another suggestion for further research, and an essential element for determining the extent to which the conflation of individual SOC strategies in the present study was a result of the unipolar item formulation discussed above and to which extent it was simply a reflection of how self-regulation strategies in young adulthood are manifested at the domain-general level.

Although our results focusing on domain-specific self-regulation in young adults did not provide conclusive information on the adequacy of the model proposed by Geldhof et al. (2012), the applicability of the theoretical framework of the SOC model itself not only to young adulthood but also to the whole lifespan in various cultural settings is supported by the results of several studies (e.g., Chou & Chi, 2001; Freund & Baltes, 2002a; Moghimi et al., 2021). Despite limitations, we believe our study helps shed yet more light on the potential issues surrounding the measurement of SOC strategies in adolescence and early adulthood and provides inspiration for further research. Future research might help clarify whether developmental differences in self-regulation are bound to particular life domains and whether the employment of particular strategies in specific domains leads to similarly positive outcomes across different stages of adulthood. It is also necessary to address methodological issues that may cause discrepancies in results above and beyond actual differences in functioning across domains and developmental periods.

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Appendix

Table A *Original and translated items of the Academic SOC Questionnaire*

Item no.	Original scale	Original item	Translated item
1	O	I am easily distracted away from my schoolwork.*	Při školní práci se nechám lehce vyrušit. *
2	C	When my usual way of reaching an academic goal no longer works, I try another way.	Když můj obvyklý způsob dosahování akademického cíle již nefunguje, zkusím jiný.
3	ES	I can easily prioritize my academic goals.	Dovedu snadno upřednostnit své akademické cíle.
4	O	It is easy for me to stay focused on my schoolwork.	Je pro mne snadné zůstat soustředěn/a na moji školní práci.
5	C	When my preferred way of pursuing an academic goal no longer works, I try another way.	V případě, že mnou upřednostňovaný způsob dosahování cílů již nefunguje, zkusím jiný.
6	LBS	When I cannot reach an academic goal, I reconsider its value.	Když nemohu dosáhnout akademického cíle, přehodnotím jej.
7	O	I keep trying in school, even when things are difficult.	I když se objeví těžkosti, ve škole se stále snažím.
8	C	If one way of pursuing an academic goal doesn't work, I try another.	Pokud jeden způsob dosažení akademických cílů nefunguje, zkusím jiný.
9	ES	I don't challenge myself at school. *	Ve škole si nestanovuji náročné úkoly. *
10	O	I easily give up on my schoolwork. *	Svou práci do školy vzdávám lehce. *
11	C	When I fail to reach an academic goal, I try another approach.	Když se mi nepodaří dosáhnout akademického cíle, zkusím jiný přístup.
12	LBS	If I cannot achieve something in school, I reweigh its importance.	Pokud nemohu ve škole něčeho dosáhnout, zvážím znovu, jestli je to pro mne důležité.
13	O	I acquire the means needed to reach my academic goals.	Získávám prostředky potřebné k dosažení svých akademických cílů.
14	C	I try multiple things to get the job done in school.	Abych splnil/a školní úkol, zkouším různé věci.
15	ES	I take on less than I should at school. *	Ve škole si na sebe beru méně než bych měl/a. *
16	O	I obtain the resources needed to reach my academic goals.	Získávám zdroje potřebné k dosažení svých akademických cílů.
17	C	I try different ways to reach an academic goal.	Pro dosažení akademického cíle zkouším různé cesty.
18	LBS	If I cannot achieve something in school, I choose a more attainable goal.	Když nemohu ve škole něčeho dosáhnout, zvolím si lépe dosažitelný cíl.

Table A continues

Table A (continued)

Item no.	Original scale	Original item	Translated item
19	O	If I try something at school, but fail, I work to become better at it.	Když ve škole o něco usiluji, ale neuspěji, pracuji na tom, abych se zlepšil/a.
20	C	When my approach to an academic goal doesn't work as before, I ask for help.	Když můj postup v dosahování akademického cíle nefunguje tak jako dříve, požádám o pomoc.
21	ES	I know which academic goals to pursue.	Vím, o které akademické cíle usilovat.
22	O	If I am not good at something in school, I try to improve my performance.	Když se mi ve škole něco nedaří, snažím se svůj výkon zlepšit.
23	C	When I fail to reach an academic goal, I ask for help.	Když se mi nepovede dosáhnout akademického cíle, požádám o pomoc.
24	LBS	When things don't work as before in school, I select a new academic goal.	Když věci ve škole nefungují tak jako dříve, zvolím si nový akademický cíl.
25	O	I carefully consider how to reach my academic goals.	Pečlivě zvažuji, jak dosáhnout svých akademických cílů.
26	ES	I am good at setting academic goals.	Umím si dobře stanovovat akademické cíle.
27	O	I figure out how to reach my academic goals before I start.	Ještě předtím, než se pustím do práce, promyslím si, jak dosáhnu svých akademických cílů.
28	LBS	When an academic goal becomes too difficult to achieve, I select a new one.	Stane-li se dosažení nějakého akademického cíle příliš obtížným, zvolím nový cíl.

Note. ES = elective selection; O = optimization; C = compensation; LBS = loss-based selection
Likert scale *1 = not at all; 7 = very much* [*1 = vůbec; 7 = úplně*]
* reversed item

Table B *Original and translated items of the Social SOC Questionnaire*

Item no.	Original scale	Original item	Translated item
1	C	I find ways to maintain a friendship after one of us moves.	Pokud se jeden z nás odstěhuje, hledám způsoby, jak přátelství udržet.
2	O	I keep promises I make to my friends.	Dodržuji sliby, které dávám svým přátelům.
3	ES	I can easily prioritize my friendships.	Mohu snadno upřednostnit svá přátelství.
4	C	I tend to lose track of friends who move away.*	S přáteli, kteří se odstěhovali, obvykle ztrácím kontakty.*
5	O	I pay attention to the commitments I make to friends.	Věnuji pozornost závazkům, které mám vůči přátelům.

Table B continues

Table B (contiued)

Item no.	Original scale	Original item	Translated item
6	LBS	When a friendship becomes too difficult to maintain, I rethink its importance.	Stane-li se přátelství těžko udržitelné, přehodnocuji jeho důležitost.
7	C	I maintain a friendship even when one of us becomes different.	I když se jeden z nás změní, přátelství udržuji.
8	O	I am a good friend.	Jsem dobrý kamarád.
9	ES	I don't like pursuing new friendships.*	Nerad/a navazuji nová přátelství.*
10	C	I stay friends with someone, even if our interests change.	I když se změní naše zájmy, s druhými lidmi zůstávám přítelem.
11	O	I am loyal to my friends.	Svým přátelům jsem věrný/á.
12	LBS	If I cannot maintain a friendship, I reweigh its importance.	Nemohu-li přátelství udržet, znovu zvážím jeho důležitost.
13	C	I stay friends with someone, even if they leave my social group.	S lidmi udržuji přátelství, i když opustí mou sociální skupinu.
14	O	I value what is important to my friends.	Vážím si toho, co je pro mé přátele důležité.
15	ES	I know how to make friends.	Vím, jak si získat přátele.
16	C	I stay friends with people, even if they join a different clique.	I když se lidé připojí k jiné partě, zůstávám jejich přítelem/přítelkyní.
17	O	I care about what my friends want.	Záleží mi na tom, co mí přátelé chtějí.
18	LBS	When a friendship becomes too difficult to maintain, I hang out with different friends.	Stane-li se přátelství těžko udržitelné, stýkám se s jinými kamarády.
19	C	When our interests change, I find new ways to invest in our friendship.	Když se naše zájmy změní, hledám nové způsoby, jak investovat do našeho přátelství.
20	O	I try to do new things with my friends.	Snažím se s přáteli dělat nové věci.
21	ES	I am good at making friends.	Jsem dobrý v navazování přátelských vztahů.
22	C	When things change, I try to find new ways to maintain my friendships.	Když se věci změní, snažím se najít nové způsoby, jak přátelství udržet.
23	O	I find ways to improve the quality of my friendships.	Hledám způsoby, jak zlepšit kvalitu svých přátelských vztahů.

Table B continues

Table B (continued)

Item no.	Original scale	Original item	Translated item
24	LBS	When I have no chance of repairing a friendship, I find a new one.	Když nemám šanci napravit staré přátelství, najdu si nové.
25	C	I work to resolve conflicts with my friends.	Pracuji na urovnání konfliktů s přáteli.
26	O	I apologize to my friends when I do something wrong.	Když udělám něco špatně, svým přátelům se omluvím.
27	LBS	If I cannot maintain a friendship, I replace it with a new one.	Nemohu-li přátelství udržet, nahradím ho novým.
28	C	I let my friendships end when my friends and I fight.*	V případě, že se s přáteli pohádám, snadno se s nimi rozejdu.*

Note. ES = elective selection; O = optimization; C = compensation; LBS = loss-based selection
Likert scale *1 = not at all; 7 = very much* [*1 = vůbec; 7 = úplně*]
* reversed item