Czech Sample

Table 1 *Standardized parameter estimates for the respecified complex model – Czech sample*

	mother		father		partner		best friend	
Item	AVM	AXM	AVF	AXF	AVP	AXP	AVBF	AXBF
1	.89		.84		.86		.85	
2	.96		.93		.94		.98	
3	.92		.93		.91		.94	
4	.74		.76		.71		.78	
5	.81		.64		.67		.71	
6	.78		.70		.71		.74	
7	.15	.87	.34	.69	.31	.69	.30	.75
8		.72		.89		.82		.86
9		.87		.93		.96		.96
	correlations of residuals for item 5 and 6							
	.57		.64		.46		.47	

Note. All parameters are statistically significant ($p < .001$); AVM = avoidance to mother, AXM = anxiety to mother, AVF = avoidance to father, AXF = anxiety to father, AVP = avoidance to romantic partner, AXP = anxiety to romantic partner, AVBF = avoidance to best friend, AXBF = anxiety to best friend. The model contained 36 items in total, 9 for each attachment figure. Thus, there are four different items in each row of the table.

Invariance Testing – both Czech and English samples

Because our data were ordinal, we could not apply the same approach with interval data for the measurement invariance analysis (Wu & Estabrook, 2016). To test measurement invariance, "theta" parametrization was used. In the first step, configural invariance is verified (all parameters are freely estimated). In the second step, thresholds and item loadings are constrained (intercepts are freed for the second group, latent variable variances are freely estimated and latent variable means are set to zero). In the third step, intercepts constraint is added (latent variable variances for both groups and latent variable means for the second group are freely estimated).

Table 2 *Measurement invariance analysis for gender – Czech sample*

Model	χ^2	*df*	$\Delta\chi^2$	*Δdf*	*TLI*	*RMSEA [CI$_{90\%}$]*	*SRMR*
female[a]	2062.60***	559			0.961	0.058 [0.055, 0.061]	0.061
male[b]	968.86***	559			0.945	0.057 [0.051, 0.063]	0.081
1	2767.43***	1117			0.964	0.054 [0.051, 0.056]	0.065
2	2752.19***	1167	41.18	50	0.967	0.052 [0.049, 0.054]	0.066
3	2790.52***	1195	15.17	28	0.967	0.051 [0.049, 0.054]	0.066

Note. [a]N = 796, [b]N = 227; ***p <.001; 1 – configural model, no identification constraints; 2 – metric model, thresholds and loadings are constrained across groups, intercepts are freed for the second group, latent variables variance is freely estimated and latent variable means are set to zero; 3 – scalar model, thresholds, loadings, and intercepts are constrained across groups, latent variable variances for both groups and latent variable means for the second group are freely estimated.

Table 3 *Measurement invariance analysis for gender – the English sample*

	χ^2	*df*	$\Delta\chi^2$	*Δdf*	*TLI*	*RMSEA [CI$_{90\%}$]*	*SRMR*
female[a]	1951.871	559			0.977	0.053 [0.050,0.055]	0.049
male[b]	790.737	559			0.976	0.047 [0.039,0.054]	0.077
1	2433.95***	1117			0.972	0.048 [0.045,0.05]	0.054
2	2379.96***	1167	21.55	50	0.975	0.045 [0.042,0.047]	0.055
3	2423.81***	1195	22.84	28	0.975	0.044 [0.042,0.047]	0.055

Note. [a]N = 903, [b]N = 192; ***p <.001; 1 – configural model, no identification constraints; 2 – thresholds and loadings are constrained across groups, intercepts are freed for the second group, latent variable variances are freely estimated, and latent variable means are set to zero; 3 – thresholds, loadings, and intercepts are constrained across groups, latent variable variances for both groups and latent variable means for the second group are freely estimated.

English Sample

Table 4 *Correlations between latent factors in the complex model for the English sample*

	AVM	AXM	AVF	AXF	AVP	AXP	AVBF
AVM							
AXM	.67***						
AVF	.30***	.21***					
AXF	.19***	.55***	.70***				
AVP	.31***	.23***	.17**	.13***			
AXP	.24***	.40***	.21**	.32***	.52***		
AVBF	.27***	.18***	.22***	.17***	.27***	.13***	
AXBF	.23***	.37***	.20***	.33***	.16***	.35***	.59***

Note. ***p <.001; AVM = avoidance to mother, AXM = anxiety to mother, AVF = avoidance to father, AXF = anxiety to father, AVP = avoidance to romantic partner, AXP = anxiety to romantic partner, AVBF = avoidance to best friend, AXBF = anxiety to best friend.

Table 5 *The standardized parameters of the complex model – the sample of English-speaking countries*

Item	AVM	AXM	AVF	AXF	AVP	AXP	AVBF	AXBF
1	.89		.89		.81		.85	
2	.91		.93		.83		.83	
3	.90		.92		.85		.88	
4	.81		.86		.75		.76	
5	.78		.75		.74		.73	
6	.78		.73		.69		.75	
7	.06	.91	.12	.86	.16	.83	.13	.81
8		.88		.88		.86		.85
9		.91		.92		.88		.88
		correlations of residuals for item 5 and 6						
	.27		.39		.24		.32	

Note. All parameters are statistically significant (p < .001); AVM = avoidance to mother, AXM = anxiety to mother, AVF = avoidance to father, AXF = anxiety to father, AVP = avoidance to romantic partner, AXP = anxiety to romantic partner, AVBF = avoidance to best friend, AXBF = anxiety to best friend.

Table 6 *Standardized parameter estimations for higher-order model for the English sample*

Factor loadings

Item	First-order factors							
	AVM	AXM	AVF	AXF	AVP	AXP	AVBF	AXBF
1	.89		.89		.81		.85	
2	.91		.93		.83		.83	
3	.90		.92		.85		.88	
4	.81		.86		.75		.76	
5	.77		.75		.73		.73	
6	.77		.73		.69		.75	
7	.04	.91	.08	.88	.17	.82	.15	.80
8		.88		.87		.86		.85
9		.91		.91		.89		.89
	Second-order factors							
GAV	.63		.47		.47		.46	
GAX		.76		.63		.57		.56

Free correlations in the model

GAV-GAX	AVM-AXM	AVF-AXF	AVP-AXP	AVBF-AXBF
.60	.25	.49	.32	.59

Note. All parameter estimations are significant ($p < .001$, for factor loading of item M7 to AVM $p < .01$); residual correlations: item 5 and 6: for AVM r = .27; AVF r = .76; AVP r = .39; AVBF r = .78; The second-order factors (global avoidance and global anxiety) explain the substantial proportion of the variance of total score (for global avoidance: ω_1 = .55; global anxiety: ω_1 = .70); the proportion of the manifest variable's variance is explained by high saturation of global factors after partializing the uniqueness from first-order factors (global avoidance: partial ω_p = .91; global anxiety: partial ω_p = .95); AVM = avoidance to mother, AXM = anxiety to mother, AVF = avoidance to father, AXF = anxiety to father, AVP = avoidance to romantic partner, AXP = anxiety to romantic partner, AVBF = avoidance to best friend, AXBF = anxiety to best friend, GAV = global avoidance, GAX = global anxiety.

Table 7 *Standardized parameter estimations and reliability estimations for the bifactor model for the English sample*

	general factors								specific factors							
	GAV				GAX				mother		father		partner		best friend	
Item	M	F	P	BF	M	F	P	BF	AVM	AXM	AVF	AXF	AVP	AXP	AVBF	AXBF
1	.46	.37	30	.34					.76		.82		.78		.79	
2	.53	.33	32	.26					.75		.87		.78		.81	
3	.54	.34	37	.31					.72		.86		.77		.84	
4	.49	.42	37	.34					.65		.75		.64		.69	
5	.49	.41	.41	.43					.60		.64		.58		.59	
6	.59	.49	.42	.50					.51		.55		.51		.56	
7	-.03	-.09	.15	.16	.69	.64	.42	.36	.10	.59	.18	.62	.12	.68	.07	.72
8					.68	.57	.54	.51		.56		.66		.65		.67
9					.69	.58	.44	.48		.59		.70		.81		.75
reliability estimates																
	ω_h								ω_s							
	.42				.63				.45	.37	.60	.43	.50	.56	.54	.56
Free correlations in the model																
	GAV-GAX								AVM-AXM		AVF-AXF		AVP-AXP		AVBF-AXBF	
	.64								.72		.76		.48		.58	

Note. In general factors, M – mother; F – father; P – partner; and BF – best friend. Residuals of item 5 and 6 were correlated in all the attachment figures: for AVM r = .29; AVF r = .40; AVP r = .29; AVBF r = .33. almost all parameters are statistically significant $p < .001$, item 7 for partner in GAV factor $p < .01$, item 7 for mother and father in GAV factor and item 7 in AVBF $p > .05$. Abbreviations: AVM = avoidance to mother, AXM = anxiety to mother, AVF = avoidance to father, AXF = anxiety to father, AVP = avoidance to romantic partner, AXP = anxiety to romantic partner, AVBF = avoidance to best friend, AXBF = anxiety to best friend, GAV = global avoidance, GAX = global anxiety. The model contained 36 items in total, 9 for each attachment figure; thus, each row of the table contains four different items, one per attachment figure.

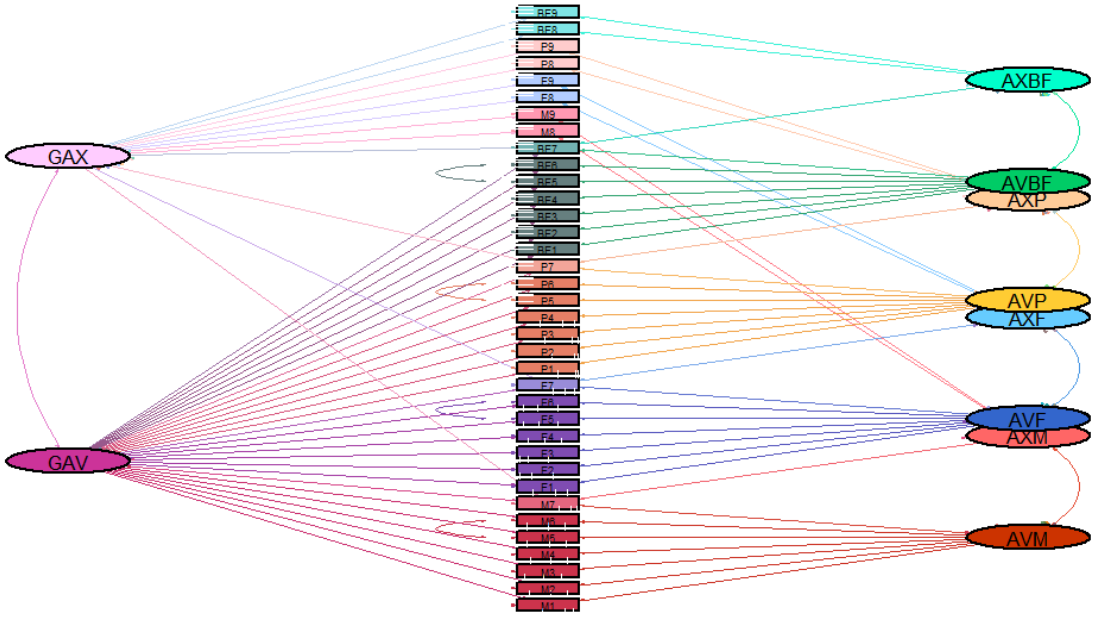

Figure 1 Bifactor model used for the analysis, standardized parameter estimations are displayed in table X; AVM = avoidance to mother, AXM = anxiety to mother, M1-M9 = items for mother; AVF = avoidance to father, AXF = anxiety to father, F1-F9 = items for father; AVP = avoidance to romantic partner, AXP = anxiety to romantic partner, P1 – P9 = items for romantic partner; AVBF = avoidance to best friend, AXBF = anxiety to best friend, BF1-BF9 = items for best friend; GAV = global attachment avoidance, GAX = global attachment anxiety

References:

Wu, H., & Estabrook, R. (2016). Identification of Confirmatory Factor Analysis Models of Different Levels of Invariance for Ordered Categorical Outcomes. *Psychometrika*, *81*(4), 1014–1045. https://doi.org/10.1007/s11336-016-9506-0