RESEARCH ARTICLE

Coparenting Relationship Scale (CRS): Validation and Psychometric Properties of the Hungarian Version

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Introduction: This study aims to investigate the validity and psychometric properties of the Hungarian version of the Coparenting Relationship Scale (CRS-HU), a measurement designed to assess different dimensions of coparenting. Only a few validation studies can be found, even though CRS is a widely used measurement.

Methods: Currently, no assessment instruments exist in Hungarian that measure coparenting relationships and practices; therefore, we adapted CRS and designed a validation study to investigate mothers' coparenting characteristics (N = 381). We checked the construct validity using confirmatory factor analysis (CFA), then to assess convergent and discriminant validity, we examined correlations between the coparenting questionnaire factors and other similar constructs. We also examined the relationship between CRS-HU and different background variables using Kruskal-Wallis and Mann-Whitney tests.

Results: Our main results showed that the internal consistency in the Hungarian version of CRS and its subscales is good or excellent (Cronbach's apha = .75–.89). The seven-factor structure had a poor model fit in CFA, however, the brief version of the CRS-HU (RMSEA = .057; CFI = .962) and six subscales separately (RMSEA = .031–.066; CFI = .978–.999) demonstrated a good model fit.

Conclusions: The brief version of Hungarian CRS and the different subscales are valid and feasible measures for assessing coparenting and its dimensions. Thus, CRS can be effectively used at last in our culture, as well.

Keywords: coparenting, measurement, validation, Coparenting Relationship Scale (CRS), Confirmatory Factor Analysis (CFA)

Introduction

Coparenting focuses on interactions and relationships between parents, more specifically on the functioning of the parent subsystem. Feinberg (2003, p. 96) defined coparenting as "a conceptual term that refers to the ways that parents and/or parental figures relate to each other in the role of parent". Coparenting is a multidimensional construct that describes the system of parental relationship dynamics related to the upbringing of children; thus,

it is advantageous to use a tool that can measure the complexity of several dimensions/subconstructs at the same time (Beckmeyer et al., 2014; Finzi-Dottan & Cohen, 2014; McHale, 1995).

The study of coparenting across various family structures is primarily grounded in a systems perspective, which helps to understand the formation and maintenance of coparenting relationships. Family Systems Theory (Goldenberg et al., 2017; Minuchin, 1974; Von Bertalanffy, 1968) has become a central systemic framework in both research and practical applications. According to this paradigm, the family is viewed as both a relationship system and an emotional system, where members influence and are influenced by one another through communication across individual, dyadic, triadic, systemic, and intergenerational dimensions. Within this framework, the importance of a stable coparenting subsystem is emphasized as a distinct element that functions in parallel with other subsystems, regardless of whether the adult relationship is intact or has transitioned (Cox & Paley, 2003).

In recent years, researchers have developed and utilized various self-reported questionnaires and scales for coparenting, each emphasizing different aspects within the coparenting theme. Here are some examples, without claiming to be exhaustive: Parenting Alliance Measure (PAM) (Camisasca et al., 2014; Konold & Abidin, 2001; Lamela et al., 2013), Partner Parental Support Questionnaire (PPSQ) (Gillis & Roskam, 2019, 2020), Coparenting Questionnaire (CQ) (Barzel & Reid, 2011; Margolin et al., 2001; Pedro & Ribeiro, 2015); Feeding Coparenting Scale (FCS) (Sherrard & Tan, 2022; Tan et al., 2019), Coparenting Across Family Structures (Co-PAFS) (Archer-Kuhn et al., 2023; Pruett et al., 2021; Saini et al., 2019), Coparenting Inventory for Parents and Adolescents (CI-PA) (Láng, 2018; Teubert & Pinquart, 2011; Zimmermann et al., 2022).

Based on Feinberg's (2003) conceptual framework of the coparenting relationship, the CRS measure included four overlapping domains: childrearing agreement, coparental support/undermining, division of labor, and joint management of the family dynamics. Most of the instrument's initial 47 items derive from previous coparenting questionnaires, but some new items were also created. After psychometric analyses, 35 items remained in the scale (Feinberg et al., 2012). The authors organized items into seven subscales connected to the four theoretical domains: 1) agreement (Coparenting Agreement, six items); 2) support/undermining (Coparenting Support, four items; Coparenting Undermining, six items; Endorse Partner Parenting, seven items); 3) joint family management (Exposure to Conflict, five items) and division of labor (Division of Labor, two items). In addition, a subscale was created to measure enhancing intimacy (Coparenting Closeness, five items). The authors also developed a brief 14-item instrument of coparenting (Brief version of Coparenting Relationship Scale; B-CRS) using two items from each of the seven subscales.

In the original study (Feinberg et al., 2012), researchers validated the instrument via a longitudinal survey of a sample including 169 co-resident heterosexual parents who were expecting their first child. The internal consistency of the whole CRS questionnaire was excellent (Cronbach's alphas ranged from .91 to .94 across gender and data collection time points). The seven coparenting subscales (α = .61–.90) and the 14-item B-CRS (α = .81–.89) had generally high internal consistencies with a few exceptions (Agreement, Endorse Partner's Parenting in some waves among mothers and/or fathers). Correlations between the full and the brief versions of CRS were very high ($r_{mothers}$ = .97; $r_{fathers}$ = .94), and the subscale scores were also moderately to strongly correlated (r = .54–.85) with the total CRS score, except for the Division of Labor subscale for fathers (r = .37). Longitudinal confirmatory factor analysis by structural equation modeling was used to check the factor structure and temporal stability. The fit indices of the model proved to be acceptable (RMSEA = .06; CFI = .93). The results indicate that coparenting scores remained stable across time ($\beta_{Wave2-Wave3}$ = .74; $\beta_{Wave3-Wave4}$ = .71).

Although CRS is a widely used instrument in non-English speaking countries (Camisasca et al., 2019; Garcia-Huidobro et al., 2019; Lamela et al., 2016; Mikolajczak et al., 2018; Roskam et al., 2018), only a few validation studies can be found (Antiwati & Purnomo, 2023; Carvalho et al., 2018; Dumitriu et al., 2022; Favez et al., 2021; Ju et al., 2023; Lamela & Jongenelen, 2018; Lee et al., 2021) in the literature. These validation studies showed that the internal consistencies of the full ($\alpha_{Portuguese}$ = .74; α_{French} = .85) and the brief versions of CRS ($\alpha_{Swedish}$ = .85–.86; α_{French} = .70; $\alpha_{Indonesian}$ = .88) were generally high (Antawati & Purnomo, 2023; Favez et al., 2021; Feinberg et al., 2020; Lamela & Jongenelen, 2018). Although in the Brazilian adaptation of the CRS, the average scores of the full and the brief versions were not calculated, four subscales had good internal consistencies in the Brazilian sample (Exposure to Conflict, Coparenting Support, Coparenting Undermining, Endorse Partner's Parenting). Despite some problems with the remaining three subscales (Coparenting Agreement, Coparenting Closeness, Division of Labor), CRS is still used in Brazil (Carvalho et al., 2018). Lamela and Jongenelen (2018) adapted and validated the CRS among Portuguese mothers. The model fit of the confirmatory factor analysis was satisfactory, with acceptable convergent and divergent validity, and good internal consistencies in the subscales, so the psychometric quality of the Portuguese version proved to be adequate. The French adaptation of the CRS

in a sample of Swiss fathers and mothers was valid, the original seven-factor structure could properly explain the variance of the data collected in the French-speaking part of Switzerland (Favez et al., 2021). Lee et al. (2021) tested the reliability and validity of the brief CRS among Swedish fathers. All but one subscale (Division of Labor) were strongly correlated with the overall B-CRS score, so the Swedish Brief Coparenting Relationship Scale consists of only 12 instead of 14 items. In the Romanian adaptation of the questionnaire, 6 factors and 28 items were retained during the factor analysis. All six factors were found to have good internal consistency. The sample consisted of Romanian parents, the majority of whom were married, but divorced parents also appeared (Dumitriu et al., 2022). Ju et al. (2023) finalized the CRS-C, the Chinese version, with 6 factors and 27 items. Cohabitating couples were also included in the study. The Cronbach's alpha for the six factors ranged between 0.69 and 0.93. Table 1 contains the internal reliability (alpha) scores in the different versions of CRS, by gender and the different validation studies.

This article aims to present the Hungarian adaptation and validation of the Coparenting Relationship Scale (CRS) (Feinberg et al., 2012) interpreting the questionnaire's psychometric characteristics in the context of previous validation studies.

Table 1. Internal Reliability of CRS in Previous Studies

Scale (number of items)	Original CRS (Feinberg et al., 2012)*	The Brazilian version of CRS (Carvalho et al., 2018)	The Portuguese version of CRS (Lamela et al., 2018)	The French version of CRS (Favez et al., 2021)	The Swedish version of B-CRS (Lee et al., 2020)	The Romanian version of CRS (Dumitriu et al., 2022)	The Indonesian version of CRS (Antawati et al., 2023)	The Chinese version of CRS (Ju et al., 2023)
CRS Total (35)	α = .91–.94	-	α = .74	α = .85	-	-	-	-
CRS Brief (14)	α = .81–.89	-	-	α = .70		-	-	-
CRS Brief (12)					α = .85–.86	-	-	
CRS Brief (13)							α =.88	
Coparenting Agreement (4)	α = .66–.74	α = .68	α = .70	α = .82		α = .87		α = .75
Coparenting Closeness (5)	α = .75–.83	α = .46	α = .84	α = .80		α = .87		α = .69
Exposure to Conflict (5)	α = .81–.90	α = .81	α = .81	α = .90		α = .95		α = .93
Coparenting Support (6)	α = .86–.89	α = .83	α = .94	α = .93		α = .95		α = .89
Coparenting Undermining (6)	α = .80– .85	α = .72	α = .79	α = .86		α = .89		α = .81
Endorse Partner's Parenting (7)	α = .61–.88	α = .78	α = .77	α = .90		α = .92		α = .75
Division of Labor (2)	r = .33–.59	α = .16	-	α = .50	-	-		-

* Feinberg's original results were based on longitudinal research, while the other studies were cross-sectional.

Methods

Participants

The analytical sample consisted of 381 women (aged 24–49 years, M = 36.1, SD = 5.1), who raised an average of two children (SD = 1.1), with the youngest being under six years old (M = 2.3, SD = 1.8). We summarized socio-demographic data in Table 2. Married (88.2%) and high-educated (82.1%) women were overrepresented in the sample.

Table 2. Description of the Sample (N = 381)

	Value	
	n	%
Education		
Secondary school	68	17.8
Higher education	292	76.6
Postgraduate (Ph.D., DLA)	21	5.5
Type of partnership		
Marriage	335	87.9
Cohabitation	46	12.1
Children in the household		
1 child	141	37.0
2 children	130	34.1
3 or more children	110	28.9
Age of the youngest child	2.3 (M)	1.8 (SD)
Age of the oldest child	7.3 (M)	4.9 (SD)

Procedure

Two independent professionals translated the CRS and other coparenting instruments into Hungarian; after comparing these versions for inconsistencies, the final versions were accepted by consensus. Then a third professional back-translated these approved Hungarian text into English, also blindly and independently. The back-translations were compared with the original measures and checked for inconsistencies. After slight changes, the translators accepted the final Hungarian version by consensus (Danis et al., 2019; The Hungarian translation is available here: https://semmelweis.hu/mental/files/2025/02/Feinberg_Coparenting_Relationship_Scale_HU-1.pdf). The research was approved by the Research Ethics Committee of Semmelweis University, Budapest, Hungary (license number: RKEB 143/219).

We collected the sample using the online LimeSurvey tool, and the questionnaire was made available between 21 August and 10 September 2019. The survey was disseminated via snowball sampling method through various mailing lists and social media platforms. This approach allowed us to reach a broad audience quickly, but it also introduced certain biases due to the nature of non-probability sampling. Specifically, the sample predominantly consisted of women, with men comprising less than 10% of the respondents. This gender imbalance in participation is an important finding in itself. It suggests that the applied sampling method and dissemination channels did not effectively engage male participants, even though the dyadic nature of coparenting emphasizes the importance of including both parents' perspectives. While the present study focuses on the psychometric validation of the CRS-HU, subsequent research targeting the broader topic of coparenting dynamics should explicitly aim to involve both mothers and fathers.

We opted for Multiple Imputation (MI) to handle missing data due to its advantages in ensuring unbiased estimates and maintaining the integrity of the dataset for the analyses performed. Specifically, we applied MI because the use of a bootstrap procedure in the confirmatory factor analysis (CFA) necessitated a complete dataset, as the method cannot process missing data. Instead of simpler approaches, such as mean imputation, we chose the more sophisticated MI method to preserve the variability and relationships within the data, avoiding potential biases introduced by less nuanced methods.

From the initial sample of 557 participants who completed the survey, 193 provided only partial responses. Participants who answered fewer than 20 of the 35 CRS items (n = 124) were excluded from the analysis. In the

resulting reduced dataset, the proportion of missing data for the CRS items was exceptionally low (0.53%).

To ensure the robustness of the imputations, we conducted sensitivity analyses comparing key statistics (means and standard deviations) of the CRS items before and after imputation. For most items, the means and standard deviations were identical up to two decimal places, and no significant differences were observed for any item. This consistency supports the validity of the MI approach in this context.

The MI procedure was conducted using SPSS 25.0, generating a complete dataset suitable for all subsequent analyses while maintaining the original dataset's quality and accuracy.

In psychometric and validation studies, sample homogenization occurs as a common practice to ensure that the results accurately reflect the properties of the measurement tool rather than the influence of external or confounding variables. By reducing variability in key demographic characteristics (e.g., education level), we aimed to control for potential biases that might arise from heterogeneity in the participants' ability to comprehend and respond to the questionnaire items. To homogenize our sample, some exclusion criteria were applied: divorced/separated participants (n = 16), men (n = 25), and respondents with a low level of education (n = 11) were excluded.

Measures

The *Coparenting Relationship Scale (CRS)* is a self-report instrument of coparenting constructed by Feinberg et al. (2012) according to Feinberg's theoretical concept (2003). The scale is comprised of 35 items divided into seven subscales: Coparenting Agreement (four items); Coparenting Closeness (five items); Exposure to Conflict (five items); Coparenting Support (six items); Coparenting Undermining (six items); Endorse Partner Parenting (seven items); Division of Labor (two items). We assessed the items using a 7-point Likert type scale that ranges from "not true of us or never" (0) to "very true of us or very often" (6) depending on the questions asked. The scale also has a brief version with 14 items (B-CRS). The internal consistency (Cronbach's α) of the original instrument, the brief version, and the different subscales in the previous research were appropriate or excellent (see details in Table 1).

The Daily Coparenting Scale (D-Cop) is a short 10-item measure developed and introduced by McDaniel and colleagues (2017) that can be administered daily (e.g., seven consecutive days) for measuring perceptions of coparenting quality (e.g., "I felt like part of a real parenting team."; "We had different ideas about parenting."; "We trusted one another's parenting."). The instrument uses a seven-point Likert scale, with each item scoring between 1 (Strongly Disagree) and 7 (Strongly Agree). The instrument, originally developed for daily testing, was used in the Hungarian validation study and in several Hungarian studies to ask about general perception ("Please tick the answer that best describes how you feel about the way you and your partner have interacted as parents in the last two weeks!"). The scale showed good internal consistency in the original study (α = .88 and .87 for mothers and fathers, respectively) and also in the present D-COP-HU dataset (α = .89).

The *Experiences with Coparenting Scale (ECS)* is a short instrument constructed and introduced by Beckmeyer et al. (2017), specifically assessing divorced or separated parents' satisfaction with their coparental relationship. The ECS consists of 11 pairs of bipolar adjectives (e.g., rigid-flexible; conflictual-peaceful). Each pair can be rated using a 7-point semantic differential scale. ECS had high internal reliability (α = .95) in the original (Beckmeyer et al., 2017), and in this study with ECS-HU, as well (α = .94).

Data Analyses

Confirmatory factor analysis (CFA) was conducted using Amos 21.0 with maximum likelihood estimations. The data obtained from 381 respondents did not satisfy the requirement of multivariate normality, therefore we used the AMOS non-parametric bootstrap option for further analyses (Walker & Smith, 2016). The Chi-square Test is a reasonable measure of fit with smaller samples (75–200 cases), but for models with more cases, the test is significant most of the time (Kenny, 2012). For this reason, we used alternative measures of fit. Three goodness-of-fit statistics were examined: χ^2/df ratio, the Comparative Fit Index (CFI), and the Root Mean Square Error of Approximation (RMSEA). According to Hu & Bentler (1999), a χ^2/df ratio below 3 and an RMSEA below .05 indicate a good fit, CFI above .95 indicates a great fit, while RMSEA between .05 and .10, CFI between .90 and .95 mean a moderate fit. We tested different models: 1) general, 2) first ordered, 3) second ordered models of CRS-HU, 4) individual subscales separately, and 5) a general model of B-CRS-HU. We tried to improve the fit of the models in two ways: 1) adding a reversed item method factor, and 2) correlating the error terms based on

the analysis of the modification indices. Following the CFA, internal consistencies of CRS-HU, of B-CRS-HU, and each subscale were examined separately, and correlations were estimated between CRS and other coparenting measures to examine convergent and discriminant validities. Because of the non-normal distributions of CRS subscales, we calculated Spearman correlations.

Results

Construct Validity – Confirmatory Factor Analyses (CFAs)

To confirm the theoretical structure of the construct, we tested five different models in CFA. The fit indices of these models are shown in Table 3. In neither case did the reversed-item method factor improve the fit of the models, so we did not apply it to the models presented below.

Table 3. Model Fit of Different Models

	χ2/df ratio	RMSEA	CFI	No. of iteration
Model 1	4.211	.092	.750	10
Model 2	2.328	.059	.898	13
Model 3	2.534	.064	.883	10
Model 4a	1.864	.048	.996	7
Model 4b	1.883	.048	.992	8
Model 4c	2.537	.064	.983	7
Model 4d	1.361	.031	.999	8
Model 4e	2.643	.066	.993	10
Model 4f	2.34	.059	.978	8
Model 5	2.214	.057	.962	11

Note. Model 1 – General model of CRS-HU; Model 2 – Second ordered model of CRS-HU; Model 3 – First ordered model of CRS-HU; Model 4 – individual subscales separately; Model 5 – General model of B-CRS-HU.

Model 1: First, a CFA was performed including the 35 items of CRS-HU in a model with one general factor. The model fit was poor, and the addition of residual covariances did not effectively change the fit parameters.

Model 2: We also tested the seven-factor theoretical structure based on the original instrument with a second-order factor of general coparenting. After adding residual covariances, the model fit was moderate, with factor loadings between .30 and .92. The direction of the relationship between the latent variables of the subscales and the general latent variable of coparenting supported the theoretical model: coparenting undermining (-.815); exposure to conflict (-.626); coparenting agreement (.800); coparenting closeness (.952); coparenting support (.952); endorse partner's parenting (.811); and division of labor (.663).

Model 3: We removed the second-order factor of general coparenting from the model and correlated the latent variables of the subscales. The model fit was moderate after adding residual covariances.

Model 4: The factors were examined separately because in previous research we came across the separate use of each subscale (Feinberg et al., 2020; Lamela et al., 2016; Lamela et al., 2020). We did not examine the Division of Labor subscale separately because of the low number of items. Each of the six subscales demonstrated a good or excellent model fit.

Model 5: The brief version of CRS-HU (14 items) had a good fit in the general model (which is parallel to Model 1 without using subscales), with factor loadings between .33 and .80 (See Figure 1).

In further analyses, we focused on Model 1 and Model 5, as well as on the separately defined subscales. Although the fit indices for Model 1 were not satisfactory, we considered it important to include this model to ensure comparability with previous studies. In contrast, Models 2 and 3, which exhibited a poor fit, were excluded from further examination.
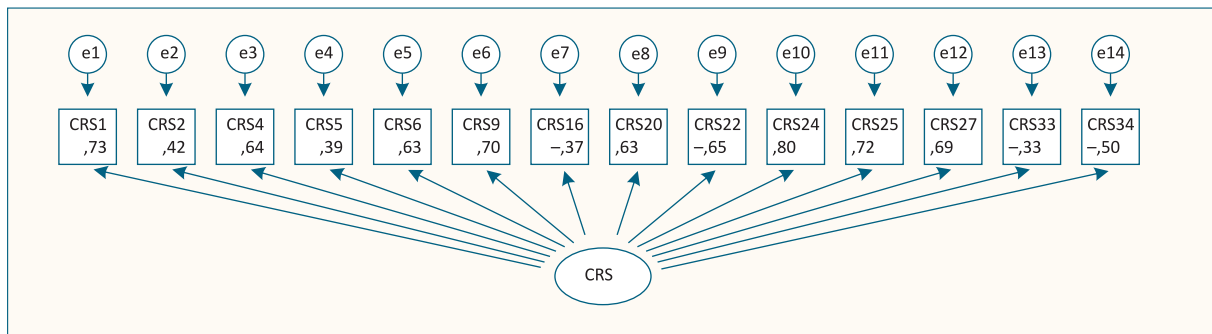
Note. In the figure, the factor loadings are shown in the squares. Items 16, 22, 33, and 34 are not listed as reverse items in the original article, but their content clearly indicates they are. For further details, see the Discussion section.

Internal Consistency

The internal consistencies of the CRS-HU (35 items), the B-CRS-HU (14 items), and six subscales were assessed by Cronbach's alphas and McDonald's omegas. The Division of Labor was examined with Spearman correlation because it contains only two items. Internal consistencies were "good" or "excellent" with Cronbach's alphas and McDonald's omegas ranging from .75 to .89 (Table 4).

Table 4. Descriptive Statistics and Cronbach's α of CRS and CRS-HU (*N* = 381)

	CRS Hungarian version (*N* = 381)				CRS original study (Mother; Wave 2; *N* =156) (Feinberg et al., 2012)		
	Cronbach's α	McDonald's omega	*M*	*SD*	Cronbach's α	*M*	*SD*
Full version (35)	.82	.85	4.85	.84	.94	4.89	.83
Brief version (14)	.87	.88	4.87	.85	.88	4.91	.84
Coparenting Agreement (4)	.77	.78	4.96	1.03	.66	4.90	.99
Coparenting Support (6)	.89	.88	4.49	1.38	.88	4.63	1.33
Coparenting Closeness (5)	.78	.78	4.61	1.18	.83	4.78	1.16
Exposure to Conflict (5)	.87	.87	1.07	.89	.89	.89	.94
Coparenting/Undermining (6)	.75	.75	.53	.78	.83	.59	.77
Endorse Partner's Parenting (7)	.85	.86	4.87	1.02	.88	4.83	1.12
Division of Labor (2)*	r_s(381)= .52**		4.26	1.58	r(148)= .44	4.09	1.57

Note. * Because of the low number of items, correlation was calculated instead of Cronbach alpha.
** r_s: Spearman correlation.

Convergent and Discriminant Validity

Correlations between the CRS-HU subscales and constructs similar to the CRS were examined to assess convergent and discriminant validity. Table 5 shows that Spearman correlations between the independent scales (D-COP-HU and ECS-HU) as well as the CRS-HU and its subscales ranged between .46 and .81. Between the CRS-HU's full and brief versions, we found very strong correlation (r_s(381) = .97, *p* < .01). The D-Cop-HU measure showed a higher association with CRS-HU (r_s(381)= .81, *p* < .01), than ECS-HU, although in the latter, it was also quite strong (r_s(381) = .68, *p* < .01).

Table 5. Spearman Correlations Between CRS-HU and Other Coparenting Measures (*N* = 381)

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Full CRS-HU											
2. Brief CRS-HU	.97**										
3. Coparenting Agreement	.70**	.66**									
4. Coparenting Support	.85**	.83**	.56**								
5. Coparenting Closeness	.76**	.76**	.45**	.60**							
6. Exposure to Conflict	-.63**	-.57**	-.44**	-.45**	-.44**						
7. Coparenting Undermining	-.71**	-.65**	-.55**	-.58**	-.46**	.47**					
8. Endorse Partner's Parenting	.77**	.75**	.46**	.58**	.49**	-.34**	-.47**				
9. Division of Labor	.63**	.67**	.37**	.40**	.40**	-.29**	-.41**	-.60**			
10. D-COP-HU	.81**	.79**	.66**	.62**	.63**	-.56**	-.61**	.59**	.63**		
11. ECS-HU	.68**	.66**	.56**	.54**	.57**	-.48**	-.50**	.52**	.46**	.66**	1

Note. ** p < .01.

Table 6. Associations Between CRS and Sociodemographic Background Variables

	M (SD)	Sig. of Kruskal-Wallis/ Mann-Whitney test	Effect size (η²/*r*)
Age		.664	.002
Under 30 years	4.84 (.75)		
31–40 years	4.87 (.85)		
Over 40 years	4.81 (.88)		
Education		.019	-.12
Secondary education	4.64 (1.02)		
Higher education	4.90 (.84)		
Type of partnership		.061	-.05
Marriage	4.88 (.80)		
Cohabitation	4.68 (1.05)		
Age of the oldest child		.190	.014
Under 6 years	4.73 (.82)		
7–12 years	4.83 (.82)		
Over 13 years	4.94 (.88)		
Age of the youngest child		.035	.018
0–1 years	4.99 (.72)		
2–3 years	4.73 (.96)		
4–6 years	4.78 (.81)		

CRS-HU and Socioeconomic Background Variables

Kruskal-Wallis and Mann-Whitney U tests were used to determine whether differences in the CRS score existed between various groups of participants (Table 6).

There were no significant differences in subgroups of parents'age, education, type of partnership and age of oldest child. We found a significant effect for the age groups of the children, $\chi^2(2) = 6.694$, $p = .035$. Subsequent pairwise comparisons were performed using Dunn's (1964) procedure with a Bonferroni correction for multiple comparisons. These post-hoc analyses revealed statistically significant differences in CRS-HU scores for mothers with the youngest children's age group (*M* = 3.4; *SD* = .46; mean rank = 208.15) compared to mothers

with 2–3-year-old (M = 3.31; SD = .61; mean rank = 178.93) (p = .028) and 4–6-year-old (M = 3.31; SD = .52; mean rank = 177.92) (p = .031) children. Mothers with higher education had a higher CRS-HU score (Mdn = 3.48) than those with secondary education (Mdn = 3.31), (U($N_{secondary}$=68, N_{higher}=313) = 8715.5, z =-2.338, p = .019).

Discussion

This study's results indicate that the Hungarian version of the CRS (CRS-HU) is a reliable and valid instrument for the measurement of coparenting in a Hungarian-speaking context. Our data and CFA results suggest that the brief version (B-CRS-HU) and the six separate subscales are suitable for use; however, the full CRS-HU scale as a single factor showed a low fit and should be treated with caution despite its good internal consistency.

Positive correlations between the Hungarian versions of CRS, D-COP, and ECS indicate convergent (congruent) validity, which is consistent with previous results (McDaniel et al., 2017). A methodological and practical issue concerns the way the scale scores are calculated. The original (Feinberg et al., 2012) and several other studies (Camisasca et al., 2019; Lamela et al., 2020) used the mean scores to evaluate the CRS scale and subscales. We found only one exception among previous studies (Abbass-Dick et al., 2015), where an aggregated score of all items (ranging from 0 to 210) was calculated, with higher scores indicating higher levels of positive coparenting. When the instrument is used for screening or clinical monitoring rather than for research purposes, the aggregation method can be easier and more interpretable than calculating an average score.

In the present study, the internal consistency of each subscale was excellent or good (α = .75–.89), while in previous studies, some subscales showed a lower reliability. In the original study (Feinberg et al., 2012), in the Brazilian (Carvalho et al., 2018), and the Portuguese (Lamela & Jongenelen, 2018) versions, the coparenting agreement subscale had the lowest internal consistency; nonetheless, several studies use this subscale even on its own (Roskam et al., 2018; Teti et al., 2015). Among the subscales, Coparenting Closeness and Division of Labor became subjects of conceptual and methodological criticism. Compared to the other subscales, the Division of Labor subscale consists of only two items, which suggests a kind of methodological "separation". While for other subscales, we can measure scale reliability by Cronbach's alpha, here we can only use a correlation coefficient. We did not analyze Division of Labor as a separate subscale (Model4); the factor loadings of the other models seem to work in a similar way to the items of the other subscales. Nevertheless, we believe that using a Division of Labor subscale should be strongly considered when examining families at different life stages: we can observe a completely different division of labor in newlywed couples, parents with newborns and older children, or divorced couples. As another criticism, several studies (Ferraro et al., 2018; Lamela et al., 2016) have suggested that the Coparenting Closeness subscale refers to relationship quality rather than to coparenting; therefore, the use of the subscale can be inadequate for divorced parents.

In studies using CRS, we come across many variations of it: full and brief versions, and separate subscales. This diversity shows that CRS and its separate subscales can be used to study coparenting or some of its aspects, which the results of our research also confirmed.

Items 16, 22, 33, 34 are not reversed in the original article, but their content clearly indicates that they actually are. *("My partner tries to show that she or he is better than me at caring for our child." (16); "My partner undermines my parenting." (22); "Do you argue about your relationship or marital issues unrelated to your child, in the child's presence?" (33); "Does one or both of you say cruel or hurtful things to each other in front of the child?" (34)).* In Figure 1, we have intentionally presented the reverse of the original to highlight this omission. Based on the content of the items, they were negatively loaded in the model.

Although many studies have been conducted on coparenting using the CRS, few data exist on correlations with sociodemographic variables. Mikolajczak et al. (2018) pointed out that sociodemographic factors play a much smaller role in parental burnout than factors related to parenting and family functioning. Consistent with the results of previous studies, we found no association between sociodemographic background variables and CRS, except for the age of the youngest child.

In conclusion, although our work proves to us the full CRS-HU's good internal consistency, we recommend some caution because the factor structure does not fit properly into our Hungarian data. The brief version and the individual subscales can be used with greater confidence.

Strenghts and Limitations

This research is significant for several reasons. First, so far, no established method has been established yet for measuring this construct in Hungary, which has limited the ability to connect with the international research discourse. With this study, we address this gap, enabling Hungarian researchers to align with global standards and contribute to international discussions. The instrument we have developed provides a solid foundation not only for academic research but also for clinical applications in the Hungarian context.

We offer the tool in several versions to meet diverse research and professional needs: a full-scale version, a shortened version, and options focusing on specific subscales. This flexibility ensures that the instrument can be adapted to a variety of research purposes and practical applications, enhancing its utility in both academic and applied settings.

On the other hand, several limitations of the study should also be noted. First, our sample is specific in terms of gender and education: only women participated, and women with higher education were overrepresented. A further testing of the instrument on a representative sample or other specific target groups would be essential. Since the study of coparenting dynamics inherently requires the perspectives of both partners, future research should include men to provide a more balanced and comprehensive understanding of coparenting.

Additionally, we utilized convenience sampling with a snowball method. Testing the instrument on a representative sample would allow for establishing Hungarian scale standards, which would benefit both clinical work and research. Finally, due to the study's cross-sectional design, we did not measure coparenting dynamics over time, nor did we assess the temporal stability of the questionnaire through a test-retest structure. Future longitudinal research is needed to address these limitations.

Conclusion, Implications and Future Directions

This study represents a significant milestone in coparenting research through validating the Hungarian version of the Coparenting Relationship Scale (CRS-HU). The results confirm the reliability and validity of the CRS-HU and its brief version (B-CRS-HU) as tools for assessing coparenting dynamics in Hungarian-speaking populations. The individual subscales also provide valuable flexibility for targeted investigations of specific coparenting dimensions.

The CRS-HU offers opportunities for Hungarian researchers and practitioners to align with international standards and contribute to global discourse on coparenting. Its practical applications extend to clinical interventions, where it can be used to assess and improve coparenting relationships in diverse family contexts. The availability of multiple versions enhances its adaptability across various research and applied settings.

Future research should prioritize testing the CRS-HU with male participants to gain a more balanced and comprehensive understanding of coparenting dynamics. The inclusion of fathers is particularly critical given the dyadic nature of coparenting and thus, the necessity of capturing both parents' perspectives. Longitudinal studies are also essential to examine the instrument's temporal stability and better understand the developmental trajectories of coparenting relationships over time.

Additionally, further validation studies involving representative samples of diverse family structures — such as blended families, separated parents, and non-traditional households — would broaden the instrument's applicability. Establishing Hungarian normative data would also enhance the utility of the CRS-HU in both research and clinical contexts. Integrating the CRS-HU with other measures of family functioning could yield deeper insights into the systemic interconnections within families and their impact on child outcomes.

Finally, as few international validation studies of the CRS exist, our work also contributes to the broader effort to enable cross-cultural comparisons and to examine the cultural validity of the construct and the instrument. By doing so, we aim to inspire further research and validation analyses in other cultures and countries, advancing the global understanding of coparenting dynamics.

In conclusion, the CRS-HU provides a solid foundation for advancing coparenting research and practice in Hungary. Testing the instrument with a more diverse range of participants, particularly men, will be an essential step in ensuring its comprehensive applicability and relevance in capturing the dynamics of coparenting relationships.

Author contribution

Attila PILINSZKI: conceptualization, design, methodology, funding acquisition, investigation, project administration, data management, formal analyses, interpretation, writing original draft.
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Declaration of interest statement

The authors have no conflicts of interest to disclose.

Ethical statement

This manuscript is the authors' original work.
All participants engaged in the research voluntarily and anonymously.
Their data are stored in coded materials and databases without personal data.
The studies involving human participants were reviewed and approved by the Research Ethics Committee of Semmelweis University, Budapest, Hungary (license number: RKEB 143/219).

Data availability statement

Datasets presented in this article are available in a publicly accessible repository: coparenting_pilot_final.sav
https://osf.io/2ynux/?view_only=2f86501fdbff490fbaf328894f38d60d

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References

Abbass-Dick, J., Stern, S. B., Nelson, L. E., Watson, W., & Dennis, C.-L. (2015). Coparenting breastfeeding support and exclusive breastfeeding: A randomized controlled trial. *Pediatrics*, *135*(1), 102–110. https://doi.org/10.1542/peds.2014-1416

Antawati, D. I., & Purnomo, B. R. (2023). Indonesian translation and validation of Co-Parenting Relationship Scale Brief Version (Brief-CRS). *Qubahan Academic Journal*, *3*(4), 342–351. https://doi.org/10.58429/qaj.v3n4a183

Archer-Kuhn, B., Saini, M., Hughes, J., Tam, D., & Trudgill, D. I. N. (2023). A survey of mothers' experiences of shared parenting and domestic violence. *Family Court Review*, *61*(2), 395–412. https://doi.org/10.1111/fcre.12715

Barzel, M., & Reid, G. J. (2011). A preliminary examination of the psychometric properties of the Coparenting Questionnaire and the Diabetes-Specific Coparenting Questionnaire in families of children with type I diabetes. *Journal of Pediatric Psychology*, *36*(5), 606–617. https://doi.org/10.1093/jpepsy/jsq103

Beckmeyer, J. J., Coleman, M., & Ganong, L. H. (2014). Postdivorce coparenting typologies and children's adjustment. *Family Relations*, *63*(4), 526–537. https://doi.org/10.1111/fare.12086

Beckmeyer, J. J., Ganong, L. H., Coleman, M., & Markham, M. S. (2017). Experiences with Coparenting Scale: A semantic differential measure of postdivorce coparenting satisfaction. *Journal of Family Issues*, *38*(10), 1471–1490. https://doi.org/10.1177/0192513x16634764

Camisasca, E., Miragoli, S., & Di Blasio, P. (2014). Is the relationship between marital adjustment and parenting stress mediated or moderated by parenting alliance? *Europe's Journal of Psychology, 10*(2), 235–254. https://doi.org/10.5964/ejop.v10i2.724

Camisasca, E., Miragoli, S., Di Blasio, P., & Feinberg, M. (2019). Co-parenting mediates the influence of marital satisfaction on child adjustment: The conditional indirect effect by parental empathy. *Journal of Child and Family Studies, 28*, 519–530. https://doi.org/10.1007/s10826-018-1271-5

Carvalho, T. R., Barham, E. J., de Souza, C. D., Böing, E., Crepaldi, M. A., & Vieira, M. L. (2018). Cross-cultural adaptation of an instrument to assess coparenting: Coparenting Relationship Scale. *Psico-USF, 23*(2), 215–227. http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1413-82712018000200215&nrm=iso

Cox, M. J., & Paley, B. (2003). Understanding families as systems. *Current Directions in Psychological Science, 12*(5), 193–196. https://doi.org/10.1111/1467-8721.01259

Danis, I., Gervai, J., & Pilinszki, A. (2019). The Hungarian translation of the Coparenting Relationship Scale. Available here: https://semmelweis.hu/mental/files/2025/02/Feinberg_Coparenting_Relationship_Scale_HU-1.pdf

Dumitriu, C. G., Dudu, A., & Butac, L. M. (2022). Validation of the Romanian version of coparenting relationship scale. *International Research Journal of Public and Environmental Health, 9*(1), 24–34. https://doi.org/10.15739/irjpeh.22.004

Dunn, O. J. (1964). Multiple comparisons using rank sums. *Technometrics, 6*(3), 241–252. https://doi.org/10.1080/00401706.1964.10490181

Favez, N., Tissot, H., Golay, P., Max, A., Feinberg, M. E., & Bader, M. (2021). French adaptation of the Coparenting Relationship Scale: A scale for the assessment of the interparental relationship. *European Journal of Psychological Assessment, 37*(6), 433–439. https://doi.org/10.1027/1015-5759/a000633

Feinberg, M. E. (2003). The internal structure and ecological context of coparenting: A framework for research and intervention. *Parenting: Science and Practice, 3*(2), 95–131. https://doi.org/10.1207/S15327922PAR0302_01

Feinberg, M. E., Boring, J., Le, Y., Hostetler, M. L., Karre, J., Irvin, J., & Jones, D. E. (2020). Supporting military family resilience at the transition to parenthood: A randomized pilot trial of an online version of family foundations. *Family Relations, 69*(1), 109–124. https://doi.org/10.1111/fare.12415

Feinberg, M. E., Brown, L. D., & Kan, M. L. (2012). A multidomain self-report measure of coparenting. *Parenting: Science and Practice, 12*(1), 1–21. https://doi.org/10.1080/15295192.2012.638870

Ferraro, A. J., Lucier-Greer, M., & Oehme, K. (2018). Psychometric evaluation of the Multidimensional Co-Parenting Scale for dissolved relationships. *Journal of Child and Family Studies, 27*, 2780–2796. https://doi.org/10.1007/s10826-018-1124-2

Finzi-Dottan, R., & Cohen, O. (2014). Predictors of parental communication and cooperation among divorcing spouses. *Journal of Child and Family Studies, 23*, 39–51. https://doi.org/10.1007/s10826-012-9684-z

Garcia-Huidobro, D., Diaspro-Higuera, M. O., Palma, D., Palma, R., Ortega, L., Shlafer, R., Wieling, E., Piehler, T.,

August, G., Svetaz, M. V., Borowsky, I. W., & Allen, M. L. (2019). Adaptive recruitment and parenting interventions for immigrant Latino families with adolescents. *Prevention Science, 20*(1), 56–67. https://doi.org/10.1007/s11121-018-0898-1

Gillis, A., & Roskam, I. (2019). Development and validation of the Partner Parental Support Questionnaire. *Couple and Family Psychology: Research and Practice, 8*(3), 152–164. https://doi.org/10.1037/cfp0000123

Gillis, A., & Roskam, I. (2020). Regulation between daily exhaustion and support in parenting: A dyadic perspective. *International Journal of Behavioral Development, 44*(3), 226–235. https://doi.org/10.1177/0165025419868536

Goldenberg, I., Stanton, M., & Goldenberg, H. (2017). *Family therapy: An overview* (9th ed.). Cengage Learning.

Hu, L.-T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), 1–55. https://doi.org/10.1080/10705519909540118

Ju, J., Ye, P., & Bian, Y. (2023). Psychometric properties of the Coparenting Relationship Scale in Chinese parents. *Family Relations, 72*(4), 1694–1708. https://doi.org/10.1111/fare.12746

Kenny, D. A. (2024, October 6). *Measuring Model Fit.* http://davidakenny.net/cm/fit.htm

Konold, T. R., & Abidin, R. R. (2001). Parenting alliance: A multifactor perspective. *Assessment, 8*(1), 47–65. https://doi.org/10.1177/107319110100800105

Lamela, D., Castro, M., & Figueiredo, B. (2013). Parenting alliance measure: A Portuguese validation and development of a short-form version. *Archives of Clinical Psychiatry, 40*(6), 215–219. https://doi.org/10.1590/S0101-60832013000600002

Lamela, D., Figueiredo, B., Bastos, A., & Feinberg, M. (2016). Typologies of post-divorce coparenting and parental well-being, parenting quality and children's psychological adjustment. *Child Psychiatry & Human Development, 47*, 716–728. https://doi.org/10.1007/s10578-015-0604-5

Lamela, D., Figueiredo, B., Jongenelen, I., Morais, A., & Simpson, J. A. (2020). Coparenting and relationship satisfaction in mothers: The moderating role of sociosexuality. *Archives of Sexual Behavior, 49*, 861–870. https://doi.org/10.1007/s10508-019-01548-2

Lamela, D., & Jongenelen, A. M. I. (2018). Validação psicométrica da Escala da Relação Coparental em mães portuguesas [Psychometric randomization of the Coparental Relationship Scale in Portuguese mothers]. *Avances en Psicología Latinoamericana, 36(3)*, 585–600. http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S1794-47242018000300585&nrm=iso

Láng, A. (2018). Mama Mach and Papa Mach: Parental machiavellianism in relation to dyadic coparenting and adolescents' perception of parental behaviour. *Europe's Journal of Psychology, 14*(1), 107–124. https://doi.org/10.5964/ejop.v14i1.1474

Lee, J.-K., Feinberg, M. E., & Wells, M. B. (2021). The Swedish Brief Coparenting Relationship Scale: Psychometrics and concurrent validity among primiparous and multiparous fathers. *Family Relations, 70*(3), 823–839. https://doi.org/10.1111/fare.12503

Eur. J. Ment. Health 2025, 20, e0037, 1–13.

12

Margolin, G., Gordis, E. B., & John, R. S. (2001). Coparenting: a link between marital conflict and parenting in two-parent families. *Journal of Family Psychology, 15*(1), 3–21. https://doi.org/10.1037/0893-3200.15.1.3

McDaniel, B. T., Teti, D. M., & Feinberg, M. E. (2017). Assessing coparenting relationships in daily life: The Daily Coparenting Scale (D-Cop). *Journal of Child and Family Studies, 26*, 2396–2411. https://doi.org/10.1007/s10826-017-0762-0

McHale, J. P. (1995). Coparenting and triadic interactions during infancy: The roles of marital distress and child gender. *Developmental Psychology, 31*(6), 985–996. https://doi.org/10.1037/0012-1649.31.6.985

Mikolajczak, M., Raes, M.-E., Avalosse, H., & Roskam, I. (2018). Exhausted Parents: Sociodemographic, Child-Related, Parent-Related, Parenting and Family-Functioning Correlates of Parental Burnout. *Journal of Child and Family Studies, 27*(2), 602–614. https://doi.org/10.1007/s10826-017-0892-4

Minuchin, S. (1974). *Families and family therapy*. Harvard University Press.

Pedro, M. F., & Ribeiro, M. T. (2015). Portuguese adaptation of the coparenting questionnaire: Confirmatory factor analysis, validity and reliability. *Psicologia, Reflexão e Crítica, 28*(1), 116–125. https://doi.org/10.1590/1678-7153.201528113

Pruett, M. K., Alschech, J., & Saini, M. (2021). The impact of coparenting on mothers' COVID-19-related stressors. *Social Sciences, 10*(8), Article 311. https://doi.org/10.3390/socsci10080311

Roskam, I., Brianda, M.-E., & Mikolajczak, M. (2018). A step forward in the conceptualization and measurement of parental burnout: The Parental Burnout Assessment (PBA). *Frontiers in Psychology 9*, Article 758. https://doi.org/10.3389/fpsyg.2018.00758

Saini, M., Pruett, M. K., Alschech, J., & Sushchyk, A. R. (2019). A pilot study to assess coparenting across family structures (CoPAFS). *Journal of Child and Family Studies, 28*, 1392–1401. https://doi.org/10.1007/s10826-019-01370-3

Sherrard, A., & Tan, C. C. (2022). Feeding coparenting: Associations with coercive control, structure-based, and autonomy-promoting food parenting. *Appetite, 170*, Article 105879. https://doi.org/10.1016/j.appet.2021.105879

Tan, C. C., Lumeng, J. C., & Miller, A. L. (2019). Development and preliminary validation of a feeding coparenting scale (FCS). *Appetite, 139*, 152–158. https://doi.org/10.1016/j.appet.2019.04.020

Teti, D. M., Crosby, B., McDaniel, B. T., Shimizu, M., & Whitesell, C. J. (2015). X. Marital and emotional adjustment in mothers and infant sleep arrangements during the first six months. *Monographs of the Society for Research in Child Development, 80*(1), 160–176. https://doi.org/10.1111/mono.12150

Teubert, D., & Pinquart, M. (2011). The coparenting inventory for parents and adolescents (CI-PA). *European Journal of Psychological Assessment, 27*(3), 206–215. https://doi.org/10.1027/1015-5759/a000068

Zimmermann, G., Antonietti, J.-P., Sznitman, G. A., Petegem, S. V., & Darwiche, J. (2022). The French version of the coparenting inventory for parents and adolescents (CI-PA): Psychometric properties and a cluster analytic approach. *Journal of Family Studies, 28*(2), 652–677. https://doi.org/10.1080/13229400.2020.1749714

Von Bertalanffy, L. (1968). *General System Theory: Foundations, development, applications*. George Braziller.

Walker, D. A., & Smith, T. J. (2016). Computing robust, bootstrap-adjusted fit indices for use with nonnormal data. *Measurement and Evaluation in Counseling and Development, 0*(0). https://doi.org/10.1177/0748175616671365