Original Article

Adaptation and Validation of the Couple Resilience Inventory (CRI) in a Portuguese sample

The Portuguese Couple Resilience Inventory

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Abstract: *Introduction:* Several studies have proved that fostering resilience in couples when facing adversities plays a key role in intimate relationships. *Aim:* The aim of this study was to adapt and validate the Portuguese version of the Couple Resilience Inventory (CRI). *Method:* Data was collected from 336 individuals from the Portuguese general population, from 18 to 80 years (M = 35.38; SD = 15.36). We tested the internal structure of the CRI using confirmatory factor analysis (CFA) and also examined the reliability and construct validity. *Results:* The results supported the two-factor correlated structure of the original validation study: Positive Couple Resilience (PCR) and Negative Couple Resilience (NCR). The overall fit of the nested model was satisfactory. The internal consistency was high for both PCR (α = .920; ω = .919) and NCR (α = .860; ω = .862) CRI factors. Thus, both CRI factors showed adequate internal consistency, as indicated by the reliability coefficients and item-factor correlations. Evidence of convergent and divergent validity emerged via a hierarchical regression model that showed significant associations between couple resilience and dyadic coping factors. *Conclusion:* These findings provide evidence regarding the psychometric properties of the Portuguese version of the Couple Resilience Inventory.

Keywords: couple resilience, relational resilience, marital resilience, dyadic coping, validation

Introduction

A growing body of research highlights the critical role of close relationships in promoting health and well-being. Adults in healthy romantic relationships tend to live longer (Bookwala & Gaugler, 2020; Robles et al., 2014), have greater access to resources (Dakin & Wampler, 2008), exhibit better coping mechanisms for psychological distress (Fincham & Beach, 2010; Li et al., 2023), and are more likely to experience positive emotions and having greater support (Apostolou et al., 2023). However, the mere presence of an intimate partner is not inherently protective, as relationship difficulties can be a significant source of stress, potentially limiting an individual's ability to seek support from other relationships (Hawkins & Booth, 2005; Robles, 2014). In fact, relationship conflict and dissolution are strongly associated with poorer mental health outcomes (Coleman et al., 2013; Jiménez-Picón et al., 2021), and couple distress has been linked to increased health and psychological risks (Zhang et al., 2024). In the Portuguese context, socioeconomic crises represent a substantial risk factor for the stability and functioning of couples' relationships. Portugal was among the European nations most affected by the Great Recession (Pedroso, 2014), leading to rising poverty rates, salary and pension reductions, and higher unemployment, particularly among younger and precarious workers (Fonseca et al., 2024; Frade & Coelho, 2015). Economic strain, as an external stressor, has been directly associated with increased marital conflict (Ferreira et al., 2015) as well as with a decline in relationship well-being and increased divorce rates (Fonseca et al., 2016, 2019; Vedes et al., 2016). Notably, since the latter half of the 20th century, divorce has surpassed death as the primary reason for marital dissolution (Skerrett & Fergus, 2015). In Portugal, the divorce rate was approximately 50% in 2022, while between 2012 and 2016, it reached nearly 70% (Pordata,

2024). Furthermore, Portugal ranks among the Western European countries with the lowest perceived quality of intimate relationships (Randall et al., 2022).

Numerous studies have focused on how couples manage stressful events and adversities (e.g., Donato et al., 2012; Falconier et al., 2016), and that is the central aim of the present research. For many years, stress and coping research focused primarily on the individual (Lazarus & Folkman, 1984), overlooking the mutually reinforcing processes within interpersonal relationships. However, over the past 25 years, scholars have adopted a more systemic approach, recognizing that stressors impact both partners within a couple (e.g., Bodenmann, 1995, 1997; Lyons et al., 1998). This dyadic conceptualization highlights the interdependence of partners' stress experiences and positions coping mechanisms within a relational framework, where partners respond to both their own stress and that of their significant other. *Dyadic coping* (DC) (Bodenmann, 1997) refers to how partners support each other in dealing with stress originating outside the relationship. A review of two decades of dyadic coping research indicates that positive styles of DC benefit both partners' individual and relational well-being in the face of stressors (Falconier & Kuhn, 2019). Portuguese research has highlighted the mediating role of dyadic coping in the relationship between economic pressure and couple satisfaction (Vedes et al., 2016).

A construct closely related to dyadic coping is *couple resilience* (CR). In fact, DC inherently contributes to couples' ability to navigate adversities in a resilient manner (Roth et al., 2024). While decades of research have examined resilience as an individual trait or characteristic, emphasizing one's capacity to adapt positively in the face of challenges, much less attention has been devoted to the specific dynamics of CR (Skerrett & Fergus, 2015). The concept of resilience originated in developmental psychology, which focused on children's positive adaptation in adverse circumstances (Rutter, 1987) and generally defined it as the ability to recover from setbacks (McCubbin & McCubbin, 1988). Within the context of romantic relationships, CR represents the process by which partners support each other in maintaining well-being despite adverse life circumstances (e.g., Badr & Taylor, 2008; Badr et al., 2010; Sanford et al., 2016). Assessing CR, rather than focusing solely on relationship satisfaction, is essential for understanding how romantic relationships contribute to well-being and quality of life (Sanford et al., 2017). Previous research demonstrated that CR is positively associated with marital satisfaction (Bradley & Hojjat, 2017; Surijah et al., 2021) and quality of life (Ahmaditar et al., 2018; Ha & Ban, 2020).

The Couple Resilience Inventory (CRI; Sanford et al., 2016) is a key measure developed in the United States to assess CR, capturing both positive and negative dimensions of resilience. This dual-dimensional approach provides a comprehensive evaluation of couple resilience, recognizing that an accurate assessment requires consideration of both adaptive and maladaptive relationship behaviors (Sanford et al., 2016, 2017). CRI has demonstrated robust psychometric properties and empirical support, whereas the Relational Resilience Scale (RRS; Aydogan & Ozbay, 2015) has received only preliminary validation. A recent systematic review of resilience measurement instruments (Terrana & Al-Delaimy, 2023) found that the CRI is currently the only validated instrument specifically designed to assess couple resilience.

The CRI is particularly valuable as it evaluates relationship-specific behaviors within the context of stress, providing a more nuanced understanding of couple resilience. Furthermore, previous research (Sanford et al., 2016) has shown that the CRI generally exhibits a consistent factor structure across participants of different ethnic backgrounds, suggesting its cross-cultural applicability. To date, however, the CRI has been mostly used with U.S. samples, while only a handful of studies have been conducted in non-U.S. societies. Previous research using CRI focused on its association with individual and relational outcomes (Rivers & Sanford, 2018) as well as with other positive relational processes (i.e., social support and relationship maintenance; Haas & Lannutti, 2021, 2022). Studies have particularly highlighted the importance of distinguishing between positive and negative dimensions when investigating CR, since negative behaviors were shown to have larger effects than positive behaviors in predicting most outcomes (Rivers & Sanford, 2018), but high positive behaviors buffered the impact of negative ones on relational satisfaction (Cazzell et al., 2022). The CRI was also used with samples from Southeast Asia (Bin Ibrahim et al., 2025; Surijah et al., 2021). In particular, a modified version of the CRI was validated among individuals in LGBTQ+ relationships in Singapore (Bin Ibrahim et al., 2025). This highlights the importance of studying CR in different cultural contexts, as well as the need to test for differences in understanding the construct across cultures.

Given the increasing emphasis on dyadic interdependence in resilience research – being CR a promoter of quality of life in couples – and considering that Portugal has experienced high levels of stressors and adversities over the past decade – contributing to lower relationship quality – studies on couple resilience remain notably limited from the Portuguese context. Given the existing gap in assessing CR and its relationship with DC in Portugal, there is a current need to adapt and validate the CRI for the Portuguese population. To the best of our knowledge, no research in Portugal has examined couple resilience using the conceptualization proposed by Sanford et al. (2016). Therefore, the primary objective of this study is to adapt and validate the

CRI for the Portuguese population, assessing its psychometric properties and construct validity in a diverse sample. We examined both convergent and divergent validity through correlation analyses and hierarchical regression to assess the predictive capacity of DC on CR factors. Hierarchical regression has been widely employed in recent validation studies (Blanca & Bendayan, 2018; Gonçalves et al., 2020; Leite et al., 2023; Marujo et al., 2021). This analytic strategy will allow for evaluating the unique contribution of each DC factor in predicting CR, controlling for other factors, particularly following the theoretical and empirical sequence established in prior validation research (Vedes et al., 2013).

Furthermore, given the inconsistencies in previous research regarding sex differences in CR (Sanford et al., 2016; Surijah et al., 2021) and DC (Aydogan & Ozbay, 2018; Donato et al., 2009; Vedes et al., 2013), we will also examine potential sex differences in both variables. Specifically, Surijah et al. (2021) reported significantly higher levels of positive CR in women compared to men, whereas Sanford et al. (2016) found no sex differences. Regarding DC, findings have been mixed: some studies suggest no significant sex differences (Donato et al., 2009), while others indicate that men reported higher levels of common DC, and women reported higher supportive DC (Aydogan & Ozbay, 2018). Also, Vedes et al. (2013) found that women reported higher levels of delegated and negative DC than men.

Based on this theoretical framework and the literature's contradictory findings, the research hypotheses are described below:

Hypothesis 1 (H1): Confirmatory factor analysis will confirm the two-factor correlated structure of the original CRI in the Portuguese adaptation of the CRI.

Hypothesis 2 (H2): The positive CR factor will be significantly and positively associated with the positive dimensions of DC (i.e., stress communication, supportive, delegated, and common dyadic coping), and negatively associated with the negative DC factor.

Hypothesis 3 (H3): The negative CR factor will be positively associated with the negative DC factor and negatively associated with the positive dimensions of dyadic coping.

Hypothesis 4 (H4): Significant sex differences will be found in CR, with women reporting higher levels of positive CR.

Hypothesis 5 (H5): No significant sex differences will be found in DC.

Method

Research design

Data for this study were collected using the SurveyMonkey online platform (SurveyMonkey Inc., n.d.), following a cross-sectional survey design (Goodwin & Goodwin, 2016). Data collection was between January and April 2024. The Research Ethics Committee of the Ramon Llull University (Ref. No. 2122013D) provided the ethical approval to conduct this research. Informed consent was obtained from all participants prior to their involvement in the study.

Study sample

The sample consisted of 336 participants from the general population, between 18 and 80 years old (M = 35.38; SD = 15.36). The majority of participants were females (82.1%) in a closed/monogamous relationship (99.3%), with more than half living together (59.7%) and without children (57.4%). Note that 0.7% of participants were in nonmonogamous relationships. All participants were from Portugal, most from the Lisbon region (65.5%). Regarding the educational level, nearly half had university studies (43.5%). In terms of academic-working status, most were employed (52.7%) and reported a low-income level (48.8%, less than €10.000 to €20.000). Inclusion criteria were the following: 18 years or older, being in a romantic relationship lasting at least 3 months, Portuguese nationality, and residence.

Measures

Couple Resilience

The Couple Resilience Inventory (CRI; Sanford et al., 2016) is an individual measure of couple resilience that consists of 14 items based on a 6-point Likert scale (1 = *Definitely did NOT happen*, 2 = *Probably did NOT happen*, 3 = *Might have happened*, 4 = *Certainly happened but I cannot recall specific examples*, 5 = *Certainly happened and I can think of one example*, 6 = *Certainly happened and I can think of two or more examples*). The CRI has a bi-factorial structure: F1. Positive couple resilience (PCR, items 1-9; M = 3.97; SD = 1.16) and F2. Negative couple resilience (NCR, items 10-14; M = 2.14; SD = 1.19). In terms of reliability, the internal consistency for both factors was excellent according to cutoff criteria (George & Mallery, 2018), as Cronbach's alpha obtained in the original validation were .89 and .93 for positive and negative resilience factors, respectively.

Dyadic Coping

The Dyadic Coping Inventory (DCI; Bodenmann, 2007) was administered for the assessment of the individuals'

perception of dyadic coping (DC) processes. In this research, the Portuguese adaptation and validation of the DCI (Vedes et al., 2013) was used. The DCI consists of 37 items rated on a 5-point Likert scale (1 = *Very rarely*, 2 = *Rarely*, 3 = *Sometimes*, 4 = *Often*, 5 = *Very often*). According to CFA, the Portuguese version of DCI has a 7-factor internal structure: F1. Stress Communication, F2. Emotion-Focused Supportive DC, F3. Problem-Focused Supportive DC, F4. Delegated DC, F5. Negative DC, F6. Emotion-Focused Common DC and F7. Problem-Focused Common DC. Regarding reliability, the internal consistency for the seven factors was excellent according to cutoff criteria (George & Mallery, 2018), as Cronbach's alpha obtained in the Portuguese version for the global scale was .95. The goodness-of-fit indices tested (RMSEA, SRMR, CFI, and AIC) resulted excellent. DC is the process through which partners cope with daily stressful events (Donato et al., 2009) and has been proven to be particularly useful for couples participating in research studies who face various stressors (Kramer et al., 2005). Also, the significant association between CR and DC has been proven in previous research (Roth et al., 2014). Given these reasons, the DCI was used to examine the convergent and divergent validity of the CRI factors.

Procedure

First, we obtained permission from the original authors of the test to translate and adapt it into Portuguese. Thus, in a first phase, the CRI was adapted into Portuguese using the back-translation method following the guidelines for adapting and translating psychological tests (International Test Commission [ITC], 2017; Hambleton & De Jong, 2003). Thus, two independent translators were involved. First, a native Portuguese translator translated the original CRI into the Portuguese language. Second, the Portuguese version was backtranslated into English by a different translator, after which the research team compared the original and back-translated English versions to ensure semantic and conceptual equivalence. In this sense, item 11 ("A partner was abusive") was slightly adapted to Portuguese ("Um dos parceiros foi violento ou tratou mal o outro"), as the word "abusive" has a strong negative connotation in Portuguese. Therefore, the sense, format, grammatical, and cultural adjustment were reviewed item by item. Subsequently, the adapted and translated CRI (see Appendix A) was piloted with a controlled sample (n = 59) to analyze the items' parameters (difficulty, variance, and discrimination). The results obtained in the pilot test showed that all items had good parameters. Thus, the mean and variance were adequate, and the items were significantly correlated with respect to their respective factors, showing good discrimination. In the second phase, both psychometric measures (CRI and DCI) were administered to the overall sample, following the inclusion criteria mentioned above and through a non-probabilistic snowball sampling method (Goodman, 1961). To ensure the internal validity of the administration, no participants who took part in the pilot test in the first phase participated in the overall data collection.

Data Analyses

IBM SPSS Statistics v. 29 (IBM Corp., 2023a) and IBM SPSS AMOS v. 29 (IBM Corp., 2023b) were used to perform data analysis. SPSS Statistics was used to assess the normality of the data distribution and to compute descriptive statistics. Confirmatory Factor Analysis (CFA) was conducted to test the two-dimensional model proposed by the original authors. Consistent with the original CRI validation (Sanford et al., 2016), the two factors were specified to be correlated in the CFA model. The CFA analysis was performed using maximum likelihood estimation with robust methods due to the obtained deviations from normality. Also, AMOS Statistics was used to determine the goodness-of-fit of the obtained model. First, regarding the absolute fit indices, the following indices and cutoff values were considered: the standardized root mean square residual [SRMR; good if $\leq$ .08 (Hu & Bentler, 1999; Kyndt & Onghena, 2014)] and the Jöreskog-Sörbom goodness of fit index [GFI; adequate if $\geq$ .95 (Browne and Cudeck, 1993; Hu & Bentler, 1999)]. Second, in terms of comparative and relative fit indices, the following indices and approximate fit criteria were considered: the Bentler comparative fit index [CFI; adequate if $\geq$ .90, (Bentler, 1992; Byrne, 2001; Hair et al., 2014; Hu & Bentler, 1999; Matsunaga, 2010)] and the Bentler-Bonett non-normed fit index [NNFI; adequate for values close to .95 (Hu & Bentler, 1999)]. Third, in order to assess the parsimony of the model, the following indexes and cutoff points were considered: the root mean square error of approximation [RMSEA; adequate if $\leq$ .10, (MacCallum et al., 1996; Marcoulides & Yuan, 2017)] and the parsimonious normed fit index [PNFI; adequate if $\geq$ .50 (Mulaik et al., 1989)]. Note that the CMIN/DF index was not used, as Kline suggested (2023).

Additionally, using SPSS Statistics, we examined concurrent and divergent validity through Spearman's correlation and hierarchical regression analysis, testing the relationship between CRI and DCI factors. Mainly, common dyadic coping was used to assess the convergent validity with positive couple resilience (PCR) and divergent validity with negative couple resilience (NCR). In contrast, negative dyadic coping was used to analyze convergent validity for NCR and divergent validity for PCR. However, other positive factors of dyadic coping (stress communication, supportive and delegated styles) were also included in the convergent

Table 1. Descriptive statistics of CRI items

Item	*M* (*SD*)	Skewness	Kurtosis
1. Either you or your partner helped the other view the situation from a good perspective	5.05 (1.24)	−1.52	2.01
2. Either you or your partner was attentive to the other's needs.	5.16 (1.21)	−1.55	1.88
3. One partner helped the other (or both partners helped each other) by maintaining a positive attitude and being optimistic.	5.14 (1.17)	−1.50	1.92
4. One partner helped the other (or both partners helped each other) by remaining calm, stable, and strong in the face of a difficult situation.	4.97 (1.33)	−1.32	0.97
5. One partner helped the other (or both partners helped each other) by using special skills or abilities for addressing the situation.	4.59 (1.41)	−0.87	−0.08
6. You and your partner were clear and accurate in your communication.	4.43 (1.61)	−0.72	−0.71
7. You and your partner worked together like a team.	4.77 (1.55)	−1.13	0.11
8. You and your partner laughed together or enjoyed humor together.	4.60 (1.65)	−0.92	−0.45
9. You and your partner spent time together doing things as a couple.	5.26 (1.20)	−1.76	2.48
10. Either you or your partner withdrew from your communication.	3.26 (1.71)	0.20	−1.20
11. Either you or your partner was abusive.	1.97 (1.65)	1.47	0.58
12. Either you or your partner denied, ignored, or downplayed the seriousness of a problem.	2.80 (1.68)	0.57	−0.88
13. Either you or your partner was critical, hostile, or blamed the other.	3.04 (1.80)	0.36	−1.23
14. Either you or your partner decided that it was best to avoid discussing a topic.	3.42 (1.68)	0.09	−1.10

Table 2. Factor loadings from the CFA of CRI scores

Item	Factor loadings	
	F1. Positive CR	F2. Negative CR
Item 1	.747	–
Item 2	.844	–
Item 3	.878	–
Item 4	.840	–
Item 5	.725	–
Item 6	.693	–
Item 7	.739	–
Item 8	.642	–
Item 9	.722	–
Item 10	–	.657
Item 11	–	.618
Item 12	–	.831
Item 13	–	.831
Item 14	–	.763

Note. Maximum likelihood and robust estimation methods were used. Values presented are raw factor loadings.

validity. Based on the limitations of Cronbach's test (McNeish, 2018), both Cronbach's alpha and McDonald's omega tests were carried out to analyze the internal consistency of the CRI. Also, means comparisons (Mann-Whitney's U test) were calculated in order to determine possible differences between men and women on both scales.7

Design and Analysis Transparency

The analytic methods can be provided by the corresponding author upon request. This research did not use pre-existing data. Data cannot be publicly shared due to privacy and ethical restrictions. This study was not preregistered (see Electronic Supplementary Material ESM 1, Table S1).

Results

Descriptive Analysis of Items

Table 1 displays the descriptive analyses of the CRI items. Similar means were obtained for all items, with the exception of item 11, which assesses violence. It must be noted that item 11 obtained higher skewness and lower kurtosis as compared to the rest of items of the same factor.

Internal Structure

The factor structure of the original CRI (Sanford et al., 2016) was tested using CFA. As shown in Table 2, all standardized factor loadings resulted in adequate values, ranging from .640 to .850 for the positive couple resilience (PCR) factor and from .561 to .797 for the negative couple resilience (NCR) factor. Also, the correlation between the two factors was statistically significant and resulted in an inverse value ($r = -.169^{**}$; $R^2 = .029$). Also, the means and standard deviations obtained for the PCR ($M = 4.88$; $SD = 1.08$) and the NCR factors ($M = 2.90$; $SD = 1.36$) were similar to those of the original validation.

The goodness-of-fit indices were satisfactory, as the data showed an adequate fit to the two-factor model ($\chi^2(76) = 405.183$, $p < .001$, SRMR = 0.069, GFI = 0.969, CFI = 0.886, NNFI = 0.863, RMSEA = 0.093, PNFI = 0.722). However, the CFI (0.886) and NNFI (0.863) indices fell slightly below the approximate fit criteria, although not to an extent that warranted model rejection.

Also, the fit of the one-factor model (Model B) was inadequate and worse than that obtained in Model A (see Table 3), which reinforced the two-factor correlated model.

Table 3. Goodness-of-fit indices of the tested models

			Absolute fit indices		Relative fit indices		Parsimony indices	
	χ^2	*df*	SRMR	GFI	CFI	NNFI	RMSEA [CI 90%]	PNFI
Model A	405.183	76	.069	.969	.886	.863	.093 [.090–.097]	.722
Model B	1107.260	77	.166	.933	.643	.578	.200 [.189–.210]	.532

Note. Model A is the two-factor correlated model proposed by Sanford et al. (2016). Tested model B is one-factor structure. Cutoff points are described in Data analysis of Method section.

Table 4. Item-factor Spearman's correlations and reliability coefficients

	F1. Positive couple resilience (PCR)	F2. Negative couple resilience (NCR)
Items		
Item 1	.717***	
Item 2	.757***	
Item 3	.807***	
Item 4	.819***	
Item 5	.769***	
Item 6	.784***	
Item 7	.804***	
Item 8	.726***	
Item 9	.658***	
Item 10		.781***
Item 11		.647***
Item 12		.826***
Item 13		.839***
Item 14		.823***
Reliability coefficients		
Cronbach's α	.920	.860
McDonald's ω	.919	.862

Note. ***$p \leq .001$.

Figure 1 displays the standardized estimates obtained from the CFA conducted in AMOS. These differ from the unstandardized factor loadings shown in Table 2, which reflect the raw regression coefficients from the CFA model.

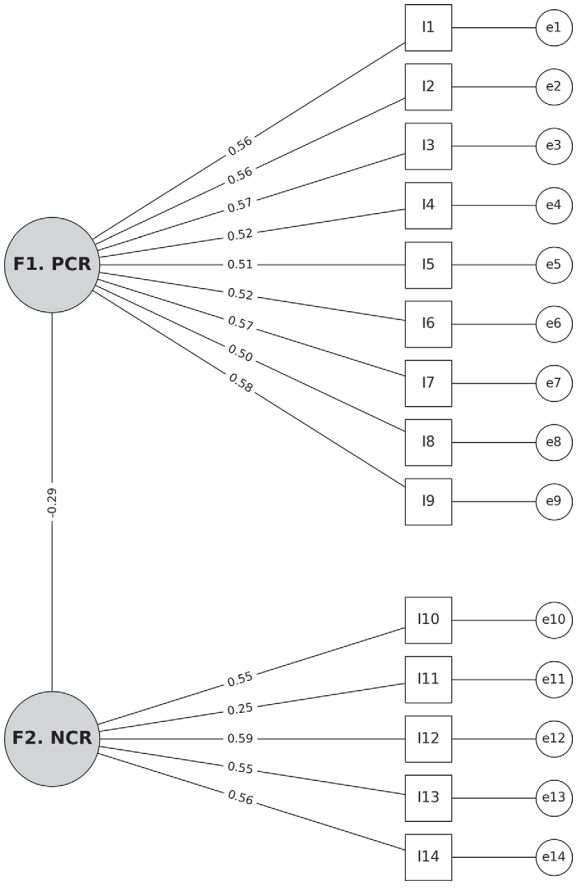

Figure 1. Standardized estimates of the Portuguese CRI items obtained in the confirmatory factor model. F1. PCR = Positive Couple Resilience; F2. NCR = Negative Couple Resilience.

Internal Consistency Reliability of the Measure

In order to assess the internal consistency, we used item-factor correlations and reliability coefficients (see Table 4). First, item analysis demonstrated that all items contributed to the internal consistency of both factors. All corrected item-factor correlations were above .60. Therefore, all values were satisfactory. Second, in terms of reliability coefficients, both Cronbach's alpha and McDonald's omega were higher than .90 for PCR factor (α = .920; ω = .919) and higher than .80 for NCR factor (α = .860; ω = .862). According to the George and Mallery (2018) cutoffs, internal consistency was excellent for the PCR factor and good for the NCR factor.

Convergent and Divergent Validity of the Measure

As can be seen in Table 5, significant correlations were found between couple-resilience factors and DCI factors. Factor 1, positive couple resilience (PCR) correlated directly with positive dimensions of dyadic coping (stress communication, emotion-focused supportive DC, problem-focused supportive DC, delegated DC, emotion-focused common

DC, and problem-focused common DC) and resulted inversely correlated with negative DC factor. Consistently, the negative factor of CR obtained opposite correlations.

Convergent validity was also studied by conducting hierarchical regression analysis with the scores on the two CRI factors as the dependent variable and the scores on DCI factors as predictors (see Table 6). The model obtained when entering stress communication in the first step of the analysis explained 17.3% of the variance for positive resilience and 2.0% of variance for negative resilience. With emotion-focused supportive dyadic coping added to the equation, the variance explained by the model was 41.7% and 14.9%, respectively. Adding problem-focused supportive dyadic coping, the variances obtained were 42.6% and 15.1%. When the delegated dyadic coping style was included in the regression model, the explained variances remained similar. With negative dyadic coping added to the equation, the variance explained resulted in 43.0% and 20.4%, respectively. Adding emotion-focused dyadic coping, the variance explained was 44.1% for positive couple resilience and 24.7% for negative couple resilience. Finally, with common dyadic coping added, the variance explained was 44.3% for positive couple resilience and 25.2% for negative couple resilience, with all seven predictors being statistically significant.

This hierarchical regression analysis shows that values on PCR are positively related to values on emotion-focused supportive and common dyadic coping styles, such that when other predictors are constant, the score on PCR increases by .556 for each point increase in the emotion-focused supportive factor and by .175 for each point increase in the problem-focused supportive dyadic coping factor. The obtained outcomes also show that PCR is negatively related to values on negative dyadic coping style, with a decrease of .116 for each point increase in the negative dyadic coping, with other predictors being constant. With regards to NCR, when other predictors are constant, an increase of .585 for each point increase in negative dyadic coping was obtained, and also a decrease of .458 for each point increase in common dyadic coping.

Therefore, for PCR, emotion-focused supportive, and emotion-focused common dyadic coping resulted in the strongest predictors. For NCR, negative and emotion-focused common dyadic coping were the most powerful inverse predictors of negative resilience.

Between-Group Sex Differences

Mann-Whitney's U-test proved a significant difference ($p < .05$) between men and women in positive couple resilience, as the women's group obtained a higher mean. However, a nonsignificant difference ($p > .05$) was obtained in the negative couple resilience factor. In terms of dyadic coping, nonsignificant differences ($p > .05$) were obtained in any factor, resulting similar among both comparison groups (see Table 7).

Discussion

The primary objective of the present study was to adapt and validate the CRI in Portuguese, examining its factor structure and psychometric properties. In this regard, the CFA results indicated a good fit for the original two-factor correlated structure proposed by Sanford et al. (2016), indicating that the underlying constructs of positive CR and negative CR are conceptually and empirically distinguishable yet related in this cultural context. These findings suggest that the CRI maintains its theoretical integrity across cultural settings and supports the appropriateness of its application in Portuguese-speaking samples.

Moreover, both CRI factors demonstrated adequate internal consistency, as evidenced by reliability coefficients and item-factor correlations. Specifically, Cronbach's alpha values were comparable to those reported in the original validation study ($\alpha_{PCR} = .89$; $\alpha_{NCR} = .93$; Sanford et al., 2016). Additionally, this study provided further reliability evidence, including McDonald's omega coefficient, reinforcing the instrument's robustness. These outcomes confirmed our main research hypothesis (H1).

Evidence for the construct validity of the Portuguese CRI was demonstrated by the positive association between positive couple resilience and positive dyadic coping styles (e.g., supportive and common DC factors), as well as the negative association with the negative dyadic coping style. These findings confirmed our second hypothesis (H2) and are consistent with a growing body of research emphasizing the significant relationship between common and supportive dyadic coping and positive couple resilience (Aydogan et al., 2022; Chernichky-Karcher et al., 2019; Cox et al.,

Table 5. Spearman's correlation between CRI and DCI factors

Variables	SC	E-F SDC	P-F SDC	DDC	NDC	E-F CDC	P-F CDC
PCR	.419***	.619***	.528***	.346***	- .500***	.383***	.568***
NCR	−.109*	−.329***	−.216***	−.108*	.406***	−.279***	−.346***

Note. SC = Stress Communication; E-F SDC = Emotion-Focused Supportive Dyadic Coping; P-F SDC = Problem-Focused Supportive Dyadic Coping; DDC = Delegated Dyadic Coping; NDC=Negative Dyadic Coping; E-F CDC = Emotion-Focused Common Dyadic Coping; P-F CDC = Problem-Focused Common Dyadic Coping. *$p \leq .05$, ***$p \leq .001$.

Table 6. Hierarchical regression with positive and negative CR factors as dependent variables and DC factors as independent variables

Step	Predictors	*B*	SE β	β	*t*	*p*	R^2	ΔR^2	*F*	ΔF
					Positive couple resilience (PCR)					
	Intercept	1.153	.564		2.05	.042				
1	Stress Communication	.083	.111	.042	.743	.458	.173	.173	69.82***	69.818
2	Emotion-Focused Supportive	.556	.138	.348	4.04	<.001	.417	.244	119.09***	139.431
3	Problem-Focused Supportive	.170	.106	.106	1.60	.110	.426	.009	82.01***	4.993
4	Delegated	−.023	.083	−.013	−.27	.785	.426	.000	61.33***	.009
5	Negative	−.116	.105	−.069	−1.10	.273	.430	.005	49.87***	2.752
6	Emotion-Focused Common	.175	.081	.151	2.16	.032	.441	.011	43.25***	6.194
7	Problem-Focused Common	.053	.050	.056	1.05	.293	.443	.002	37.24***	1.111
					Negative couple resilience (NCR)					
	Intercept	2.309	.824		2.80	.005				
1	Stress Communication	.222	.162	.090	1.37	.172	.020	.020	6.85**	6.848
2	Emotion-Focused Supportive	−.150	.201	−.075	−.75	.455	.149	.129	29.18***	50.494
3	Problem-Focused Supportive	.290	.155	.144	1.87	.063	.151	.002	19.66***	.677
4	Delegated	.110	.122	.052	.91	.366	.151	.000	14.70***	.004
5	Negative	.585	.154	.276	3.80	<.001	.204	.053	16.93***	22.113
6	Emotion-Focused Common	−.458	.119	−.314	-3.87	<.001	.247	.043	18.00***	18.766
7	Problem-Focused Common	−.101	.073	−.085	−1.39	.165	.252	.004	15.75***	1.940

Note. The table presents unstandardized betas with standard errors, as well as standardized betas, *t* and *p* values, corresponding to Step 7 in both regression models. ***$p \leq .001$.

Table 7. Between-group comparison U Mann-Whitney's test by sex ($N = 336$)

	Sex				
	Man ($n = 60$)	Woman ($n = 276$)			
	M (*SD*)	*M* (*SD*)	*MD*	*U*	*p*
Couple resilience (CRI)					
F1. Positive couple resilience	4.58 (1.18)	4.95 (1.05)	−0.37	6649.00	.017*
F2. Negative couple resilience	2.63 (1.33)	2.96 (1.37)	−0.33	7091.00	.081
Dyadic coping (DCI)					
F1. Stress Communication	3.49 (0.46)	3.42 (0.57)	0.07	8802.50	.443
F2. Emotion-Focused Supportive	4.06 (0.55)	4.07 (0.70)	−0.01	7922.00	.559
F3. Problem-Focused Supportive	3.72 (0.61)	3.71 (0.69)	0.01	8191.00	.896
F4. Delegated	3.60 (0.60)	3.60 (0.65)	0.00	7963.00	.640
F5. Negative	1.83 (0.58)	1.83 (0.66)	0.00	8493.50	.754
F6. Emotion-Focused Common	3.87 (0.82)	3.86 (0.96)	0.01	8240.50	.954
F7. Problem-Focused Common	3.34 (1.12)	3.29 (1.15)	0.05	8512.00	.732

Note. *M* = mean; SD = standard deviation; *MD* = mean difference (negative values indicate a higher mean in the woman's group); *U* = Mann-Whitney's value. *$p \leq .05$.

2022; Gamarel & Revenson, 2015; Hiefner, 2021; Koivula et al., 2019; Peters et al., 2011; Revenson et al., 2005; Rivers & Sanford, 2018; Venetis et al., 2020; Zhang et al., 2017). However, our findings contradict Aydogan and Ozbay (2018), who reported no significant relationship between dyadic coping and positive couple resilience. This discrepancy may be attributable to differences in sample characteristics and/or cultural context. Furthermore, our study provides further empirical evidence regarding the positive association between negative couple resilience and negative dyadic coping, a relationship that is in line with Aydogan and Ozbay (2018) research. This outcome confirmed our third hypothesis (H3) and suggests that couples who struggle with maladaptive coping behaviors, such as insults, conflicts, offensive responses, or hostile communication, may be more likely to develop patterns of interaction that undermine resilience in the face of adversity. Previous research has emphasized that while some couples engage in adaptive patterns of conflict resolution (Feeney & Karantzas, 2017), others respond to conflict with maladaptive patterns of destructive engagement and/or conflict avoidance (Kover et al., 2024; Simpson et al., 1996). This research

enhances previous research results by contributing to a more nuanced understanding of how negative interpersonal dynamics can reinforce vulnerability rather than adaptation during challenging and stressful times.

Beyond the validation aims, the regression analyses revealed that positive dyadic coping styles significantly predict levels of positive couple resilience. Specifically, emotion-focused supportive DC emerged as a stronger predictor of positive CR than problem-focused supportive style, indicating that emotional attunement, empathy, and affect regulation within the dyad may be particularly critical mechanisms for fostering relational strength during adversity. This finding is noteworthy, as it suggests that fostering emotional support in couples may yield greater resilience benefits than focusing solely on practical problem-solving. Nevertheless, while this result offers preliminary insight into the differential impact of coping styles, longitudinal studies are needed to further explore causal pathways and determine whether interventions that target emotion-focused dyadic coping lead to measurable improvements in couple resilience over time. Moreover, future investigations should consider the role of mediating variables, given prior evidence highlighting the influence of individual attachment styles. For individuals high in attachment anxiety, emotion-focused dyadic coping buffered the deleterious effects of their insecurity on relationship satisfaction and perceived security. In contrast, problem-focused dyadic coping was associated with diminished relationship satisfaction among this group. Conversely, among individuals with high attachment avoidance, problem-focused coping was linked to increased relationship satisfaction (Vedelago et al., 2022).

In terms of sex differences, our findings confirmed our fourth hypothesis (H4) by showing significant variations in the perception of couple resilience. Specifically, women reported higher levels of positive couple resilience, while negative couple resilience was perceived similarly across sexes. These outcomes are in line with recent research (Surijah et al., 2021) but contradicts the original validation study of the CRI (Sanford et al., 2016), which did not find significant sex differences in CR. Interestingly, dyadic coping did not differ significantly between men and women, aligning with Donato et al. (2009) and confirming hypothesis H5. However, this contradicts prior research indicating that men perceive higher common dyadic coping (Aydogan & Ozbay, 2018), while women report higher delegated and negative dyadic coping (Vedes et al., 2013). Furthermore, previous studies have consistently found higher stress communication among women (Donato et al., 2009; Vedes et al., 2013), a result that conflicts with our findings. These discrepancies underscore the need for further research with gender-balanced samples to explore potential sex differences in couple resilience and dyadic coping.

Limitations, Future Directions, and Strengths

This study has several limitations that should be acknowledged. First, the sample size limits the generalizability of the findings to the Portuguese-speaking populations. Second, the cross-sectional design prevents causal inferences between dyadic coping and couple resilience, as identified in the regression analysis. Third, data were not collected from both members of the couples, precluding the application of dyadic models like the actor-partner interdependence model. Fourth, test-retest reliability was not assessed, limiting conclusions regarding the stability of the instrument over time. Fifth, the sample was predominantly composed of women, limiting the representativeness of the sample in terms of sex distribution and meaning that between-group comparisons should be interpreted cautiously. Additionally, the study sample consisted of general population participants, which may explain the high resilience scores and the skewness and kurtosis observed in item 11, given the low reported levels of violence. Sixth, although the CFI (.886) and NNFI (.863) indices fell slightly below the conventional cutoffs, the model demonstrates acceptable overall fit when considering the SRMR (.069), GFI (.969), RMSEA (.093), and PNFI (.722), all of which meet or exceed recommended thresholds. In fact, a recent study (Groskurth et al., 2024) cautions against rigid cutoff values, emphasizing the importance of considering multiple fit indices and showing that acceptable CFI values may vary based on sample size, model complexity, and data characteristics, with values as low as .813 deemed acceptable. Taken together, these results support the adequacy of the model, despite minor deviations in CFI and NNFI indices. Finally, it is crucial to recognize that relying on retrospective self-reports introduces potential biases, as individuals reflect on past events from a different perspective. However, idealization bias is an inherent characteristic of romantic beliefs (Karandashev & Karandashev, 2019) and represents a common challenge in dyadic process assessments (Salla & Feixas, 2023). To address these limitations, future studies should incorporate diverse samples, including older adults and clinical populations, to deepen our understanding of couple resilience and dyadic coping. Also, given the significant impact of romantic love perceptions on relationship dynamics, communication, and conflict (Grané-Morcillo et al., 2025a), future research could further explore the interplay between romantic love and couple resilience. Additionally, further investigations could use a longitudinal design to assess CR and DC as key predictors of divorce. Future studies should also explore the applicability of the CRI across diverse relationship contexts (e.g., same-sex couples, couples with children, long-distance relationships) and examine its predictive validity using longitudinal or mixed-method approaches. Lastly, future research could

investigate the associations between CR and DC and additional variables, such as couple satisfaction, relationship quality, adult attachment, and parenting style.

Despite these limitations, this study also has several noteworthy strengths. First, the translation and adaptation process adhered to the ITC guidelines (2017), ensuring methodological rigor throughout the translation and back-translation steps. Second, the study achieved an excellent sample-to-item ratio (24:1), which exceeds recommended standards (Kline, 2023; Schumacker & Lomax, 2015). Third, the CRI is one of the few existing instruments specifically designed to assess couple resilience, offering a brief yet comprehensive evaluation of couples' resilient capacities in both clinical and research contexts.

Implications of This Study

A reliable and valid measure for assessing couple resilience – a construct that is increasingly recognized as a key factor in couples' relationships – provides the scientific community with a valuable tool for advancing assessments and developing targeted interventions. The administration of the CRI can contribute to the refinement of therapeutic approaches aimed at strengthening couples' adaptive coping mechanisms and resilience in the face of adversity. Also, our findings underscore the importance of emotion-focused dyadic coping as a key relational resource and suggest that interventions aiming to enhance couple resilience may benefit from prioritizing strategies that strengthen emotional connection and mutual support within romantic partnerships. Furthermore, this measure can serve as a useful tool for evaluating the effectiveness of individual or couple-based relational-systemic therapeutic processes. Finally, the Portuguese version of the CRI expands opportunities for cross-cultural comparison of couple relationship quality (Grané-Morcillo et al., 2025b) and enhances the reproducibility of our findings.

Conclusion

Overall, the current study makes several important contributions to the scholarship and scientific literature, extending the utility of the CRI to Portuguese-speaking populations and identifying key relational processes associated with couple resilience. In summary, our findings provide strong evidence supporting the psychometric properties of the Portuguese version of the CRI in an adult sample. The CRI proves to be a valid, reliable, and valuable instrument for couple resilience assessment. The results of the present research support the reliability and validity of the Portuguese CRI.

Electronic Supplementary Materials (ESM)

The electronic supplementary material is available with the online version of the article at https://doi.org/10.1024/2673-8627/a000096

ESM 1. Table S1. Summary of the TOP 2025 Standards

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History
Received March 6, 2025
Accepted December 31, 2025
Published online February 27, 2026

Open Science
The information needed to reproduce all of the reported results is not openly accessible. Data cannot be publicly shared due to privacy and ethical restrictions. This study was not preregistered. The analytic methods can be provided by the corresponding author upon request. This research did not use pre-existing data.

Acknowledgment
We want to express our sincere gratitude to Ana Vilares and Sara Wise for their invaluable involvement in the translation and back-translation process.

Publication Ethics
This research obtained ethical approval from the Ramon Llull University Ethical Committee (Ref. No. 2122013D).

Authorship
All authors contributed to the study's conception and design. Material preparation, data collection, and analysis were performed by Jaume Grané-Morcillo and Susana Costa-Ramalho. The first draft of the manuscript was written by Jaume Grané-Morcillo, Susana Costa-Ramalho, Silvia Donato, Miriam Parise, Carles Pérez-Testor, and Berta Vall. All authors critically reviewed the previous versions of the manuscript and also read and approved the final manuscript.

Funding
This research was funded by the European Union (EU) and the Catalan Agency for Research (AGAUR) (Grant number: 2024FI-300920).

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Appendix A

Inventário de Resiliência do Casal (Grané-Morcillo et al., 2026)

Agora, pense na situação mais stressante que já enfrentaram como casal, durante o relacionamento com o/a seu/sua parceiro/a. Encontrará algumas frases sobre a forma como lidaram com esse problema, conflito ou adversidade. Por favor, responda o mais honestamente possível. Não existem respostas certas ou erradas. Consegue lembrar-se de um exemplo específico deste comportamento na sua relação?

No momento do seu evento stressante...

1. Um dos parceiros ajudou o outro a encarar a situação numa perspetiva positiva.
2. Um dos parceiros esteve atento às necessidades do outro.
3. Um dos parceiros ajudou mantendo uma atitude positiva e sendo otimista.
4. Um dos parceiros ajudou permanecendo calmo, estável e forte perante esta situação difícil.
5. Um dos parceiros ajudou usando competências ou capacidades especiais para lidar com a situação.
6. Ambos fomos claros e precisos na nossa comunicação.
7. Ambos trabalhámos juntos como uma equipa.
8. Ambos rimos juntos ou levámos as coisas com sentido de humor.
9. Ambos passámos tempo juntos a fazer coisas como casal.
10. Um dos parceiros retirou-se da comunicação.
11. Um dos parceiros foi violento ou tratou mal o outro.
12. Um dos parceiros negou, ignorou, ou minimizou a seriedade do problema.
13. Um dos parceiros foi crítico ou hostil, ou culpou o outro.
14. Um dos parceiros decidiu que era melhor evitar discutir o assunto.

Nota. Escala de Likert: 1 = Definitivamente NÃO aconteceu; 2 = Provavelmente NÃO aconteceu; 3 = Pode ter acontecido; 4 = Definitivamente aconteceu, mas não me lembro de exemplos específicos; 5 = Definitivamente aconteceu, e consigo pensar num exemplo; 6 = Definitivamente aconteceu, e consigo pensar em dois ou mais exemplos.