

## Introduction and research objective

CFC refers to the degree to which individuals consider and are influenced by the immediate and future results of their actions. Traditionally, CFC has been conceptualized as a stable, domain-general individual difference (Joireman et al., 2012; Strathman et al., 1994).

However, recent studies suggest that abbreviated and domain-specific versions of the CFC scale may capture the construct more precisely while preserving the strong psychometric properties of the original version (e.g. Chng et al., 2022; van Beek et al., 2013).

**We aimed to:** (1) Develop 10- and 8-item abbreviated versions of the CFC scale in Spanish. (2) Adapt the scale to four specific life domains: health, healthy eating, physical activity, and work. (3) Examine the psychometric properties and predictive validity of these adapted versions.

### Method of study 1:

*N* = 1.095 adults (age range: 18–75, *M* = 26.64, *SD* = 10.67. 67.4% women). Data were collected using paper-and-pencil surveys.

**CFC scale:** Spanish version with two subscales: CFC-Immediate and CFC-Future (14 items; 7-point scale) (Vásquez-Echeverría et al., 2018)

**Zimbardo Time Perspective Inventory (ZTPI):** Short form (15 items) assessing five time orientations (5-point scale) (Košťál et al., 2016)

**Adolescent and Adult Time Inventory – Time Attitudes (AATI-TA):** 30 items measuring attitudes toward past, present, and future (5-point scale) (Mello & Worrell, 2007)

### Method of study 2:

*N* = 738 adults (age range: 18–72, *M* = 32.61, *SD* = 12.31. 63.1% women). 72.9% completed paper-based surveys.

**CFC scales (CFC-14, CFC-10 and CFC-8):** General and domain-specific (health, healthy eating, physical activity, work) (Chng et al., 2022)

**Healthy Eating (ad-hoc):** Total score based on average fruit and vegetable intake (7-point scale) (Kristjansdottir et al., 2006)

**Workplace Innovation Behaviors:** Total score from the 9-item scale (5-point Likert) (Janssen, 2000)

All participants provided informed consent. The studies were approved by the Ethics Committee of the University of the Republic (Uruguay).

## Results

**Table 1. Fit indices from the confirmatory factor analyses of the CFC scales**

Model	$\chi^2$	df	CFI	TLI	RMSEA	SRMR
<b>Study One</b>						
CFC-14: general	300.133*	75	.909	.890	.052 (.046 - .059)	.046
CFC-10: general	80.318*	33	.970	.960	.036 (.026 - .046)	.032
CFC-8: general	56.484*	18	.970	.954	.044 (.031 - .057)	.030
<b>Study Two</b>						
CFC-14: general	228.49*	75	.901	.880	.053 (.045 - .061)	.046
CFC-10: general	80.25*	33	.953	.936	.044 (.032 - .057)	.036
CFC-10: health	109.71*	33	.952	.935	.057 (.045 - .069)	.037
CFC-10: physical activity	82.44*	33	.912	.880	.066 (.048 - .083)	.055
CFC-10: healthy eating	84.75*	33	.936	.913	.067 (.049 - .084)	.044
CFC-10: work	54.90*	33	.963	.950	.048 (.024 - .070)	.041
CFC-8: general	51.14*	18	.957	.933	.050 (.034 - .067)	.036
CFC-8: health	50.35*	18	.972	.956	.050 (.034 - .067)	.036
CFC-8: physical activity	36.50*	18	.957	.933	.054 (.028 - .080)	.051
CFC-8: healthy eating	47.96*	18	.953	.927	.069 (.046 - .093)	.040
CFC-8: work	24.71*	18	.985	.976	.036 (.000 - .068)	.033

Notes. CFC-14 = CFC scale with 14 items; CFC-10 = version with 10 items; CFC-8 = version with 8 items; Health, physical activity, healthy eating, and work = domain-specific CFC scales. Internal consistency was acceptable to strong across all versions ( $\omega$  between .70 and .84).

### Convergent validity (Study One):

**CFC and ZTPI:** CFC-Immediate was + associated with Past Negative, Present Fatalistic, and Present Hedonistic, and - associated with Future.

CFC-Future was + related to ZTPI-Future and - related to Present Fatalistic.

**CFC and AATI-TA:** CFC-Immediate showed - associations with Past Positive and Present Positive, and + associations with Past Negative and Present Negative.

CFC-Future was associated with Future Positive and - with Future Negative. CFC-Immediate showed the opposite pattern.

### Correlations and incremental validity (Study Two):

- Domain-specific CFC scales correlated more strongly with relevant behaviors than general scales.

- Hierarchical regressions showed that domain-specific scales outperformed general versions in predicting healthy eating.

- Adding domain-specific predictors reduced the effect of general CFC scales to non-significance.

## Discussion

• Abbreviated and domain-specific versions of the CFC scale demonstrated good to very good psychometric performance (Chng et al., 2022)

• Domain-specific CFC scales showed stronger and more consistent associations with relevant behaviors, and demonstrated incremental validity over general versions (e.g. Murphy et al., 2020)

• Short versions of the CFC scale showed stronger measurement invariance across age and education than the full version. Gender-based scalar invariance was not fully achieved in any version, highlighting a limitation for cross-gender comparisons.

• Shorter and domain-specific versions offer efficient tools for research within the time perspective framework. Results suggest that CFC may vary depending on the context or life domain, emphasizing the need for further research using person-centered approaches.

