original article

Psychometric properties of the Ten-Item Personality Inventory for Children and Adolescents (TIPI-CA) in a Spanish sample

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BACKGROUND

The Ten-Item Personality Inventory (TIPI) is a non-commercial very brief Five-Factor Model (FFM) measure widely employed in research. Its use has been extended to children and adolescents, without exploring the suitability of its employment for these early ages. The present study aimed to examine the psychometric properties of an adaptation of this questionnaire (the Ten-Item Personality Inventory for Children and Adolescents, TIPI-CA).

PARTICIPANTS AND PROCEDURE

The sample comprised 2428 children and adolescents (M_{age} = 12.65, SD = 2.41, 47.16% girls). The psychometric properties of the TIPI-CA were explored in terms of factor validity (including measurement invariance across gender), as well as convergent and divergent validities in a subsample of 800 participants (M_{age} = 12.50, SD = 1.96, 49.1% girls). Furthermore, criterion validity was also tested by exploring associations with prosocial behavior and psychopatho-logical problems in another subsample of 618 participants (M_{age} = 11.97, SD = 2.70, 53.2% girls). Finally, internal consistency and temporal stability were estimated too.

RESULTS

The TIPI-CA presented reasonably appropriate psychometric properties, although weaker discriminant validity was found among children and adolescents compared to TIPI adult versions.

CONCLUSIONS

The instrument emerges as a useful tool to obtain a suitable approximation of the Big Five personality trait measures when time and/or space are scarce at early and young ages.

KEY WORDS

Five-Factor Model; personality assessment; psychometric properties; adolescents; children

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BACKGROUND

Personality is crucial to understanding people's differences in a wide variety of life outcomes (Soto, 2019). For instance, personality has been found to play an important predictive role in risk-taking behaviors (Czernecka et al., 2017) and psychopathology (Etkin et al., 2022) in adolescence. The Five-Factor Model (FFM) is currently the most agreed structural paradigm of personality (John, 2021). Traditional scales measuring the FFM traits encompass a large number of items, such as the widely used NEO-PI-R (Costa & McCrae, 1992), which assesses the FFM traits and their respective facets through 240 items. This makes participants prone to suffer fatigue and boredom, especially when administration of a measure is part of a broader test battery. It could lead to lower quality of data collection, increasing the possibilities of random answering and dropout, particularly among children and adolescents (McCrae & Costa, 2007).

In this vein, the Big Five Questionnaire for Children (BFQ-C; Barbaranelli et al., 2003), with 65 items, is one of the most employed FFM instruments from 8 years old up until adolescence and has exhibited appropriate psychometric properties in different languages, including Spanish (Barbaranelli et al., 2003; Carrasco et al., 2005; Muris et al., 2005). This one and other short FFM scales are used in Spanish children and adolescents. However, to our knowledge, no adaptation of an ultra-short scale has been conducted for this population.

The Ten-Item Personality Inventory (TIPI; Gosling et al., 2003) is the very brief FFM instrument most employed in research. The scale comprises ten items, with two items per trait consisting of antagonistic descriptors to emphasize content validity. The psychometric properties of the instrument have been explored in at least 18 different languages (see Thørrisen & Sadeghi, 2023), with mixed results for the factor structure, poor internal consistency (evidently because of its low number of items per trait), and acceptable temporal stability.

The purpose of developing the TIPI was to achieve a proxy of longer FFM measures when time is scarce. Therefore, convergent correlations with other FFM measures are fundamental to establish its applicability. In this sense, TIPI research usually demonstrates acceptable convergence on personality factors, finding the highest inconsistencies with agreeableness and openness (Thørrisen & Sadeghi, 2023). Specifically in the Spanish context, the associations between the TIPI factors and their corresponding NEO-PI-R dimensions (Costa & McCrae, 1992) have ranged from −.47 to −.61 for emotional stability (with neuroticism), from .45 to .55 for extraversion, .50 for openness, from .35 to .36 for agreeableness, and from .64 to .70 for conscientiousness (Renau et al., 2013; Romero et al., 2012). To our knowledge, several studies have employed the TIPI in children and adolescents (Jones et al., 2022; Kawamoto et al., 2021; Mann et al., 2020; Zhang et al., 2022), without testing its psychometric properties in this population. Therefore, adaption of the TIPI to children and adolescents is necessary, making the drafting of the items suitable for these ages.

Some studies have examined gender differences in personality traits measured by TIPI versions among adults (Oshio et al., 2014; Renau et al., 2013; Storme et al., 2016) and youths (Jones et al., 2022; Mann et al., 2020). However, before exploring mean differences across groups (e.g., gender), it is necessary to assess the invariance of the construct among them (Putnick & Bornstein, 2016). Consequently, another specific objective of the present research was to examine the invariance of the FFM structure measured by the TIPI-CA among boys and girls.

Another issue of concern is how similar the associations found between the TIPI dimensions and other constructs are to those observed with larger FFM scales. Accordingly, the Strength and Difficulties Questionnaire (SDQ) is a commonly used brief scale that comprises measures of emotional symptoms, conduct problems, hyperactivity, peer problems, and prosocial behaviors in children and adolescents (Goodman, 2001). Previous research has shown relationships between these constructs and FFM dimensions (Bore et al., 2020; Lewis et al., 2014; Muris et al., 2005; Slobodskaya, 2007).

The current study aimed to develop an adaptation of the TIPI for children and adolescents (TIPI-CA). The psychometric properties of the scale were analyzed in terms of convergent and divergent validity with other well-validated measures of the FFM at these ages (the BFQ-NA), and criterion validity with prosocial behavior and psychopathological problems through their measures by the SDQ. Furthermore, factor validity will also be explored, by checking the TIPI-CA factorial structure and gender invariance; together with reliability indexes, comprising internal consistency and temporal stability.

PARTICIPANTS AND PROCEDURE

PARTICIPANTS

Data were obtained from participants recruited from different studies that were conducted in convenient schools and high schools in eastern Spain. A total of 2428 students, those who reported their gender and age and answered the TIPI-CA, participated in the present study (M_{age} = 12.65, SD = 2.41, aged from 7 to 18 years, 47.16% girls). A subsample of 800 participants filled out the BFQ-NA (M_{age} = 12.50, SD = 1.96, aged from 8 to 16 years, 49.1% girls). Another subsample of 618 participants completed the SDQ (M_{age} = 11.97, SD = 2.70, aged from 8 to 18 years, 53.2% girls). Final-

ly, we re-administered the TIPI-CA to another sub-sample of 67 participants 1 month later (M_{age} = 12.60, SD = 0.65, aged from 12 to 14 years, 40.3% girls), which was randomly selected. All data were collected between 2015 and 2018.

MEASURES

Ten-Item Personality Inventory for Children and Adolescents (TIPI-CA). A Spanish version of the TIPI (Renau et al., 2013) was adapted for its use with children and adolescents (see Appendix S1 and Table S1 in Supplementary materials). The TIPI-CA consists of 10 items rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) which evaluates the FFM traits (emotional stability, extraversion, openness to experience, agreeableness, and conscientiousness) with two items representing opposite poles of each dimension.

BFQ-NA (Big Five Questionnaire de Personalidad para Niños y Adolescentes [Big Five Questionnaire of Personality for Children and Adolescents]). The BFQ-NA (Del Barrio et al., 2006), a Spanish adaptation of the BFQ-C to measure FFM in late childhood (Barbaranelli et al., 2003), is a 65-item instrument that measures the FFM dimensions in children and adolescents from 8 to 15 years on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The Cronbach's alphas for the current study were .84 for neuroticism, .85 for extraversion, .81 for openness, .93 for agreeableness, and .87 for conscientiousness.

Strength and Difficulties Questionnaire (SDQ). A Spanish version (Gómez-Beneyto et al., 2013) of the original instrument (Goodman, 2001) was employed. The 25-item scale measures emotional symptoms, conduct problems, hyperactivity, peer problems, and prosocial behaviors (5 items per dimension) in children and youths from 3 to 16 years on a 3-point Likert scale (0 – *not true*, 1 – *somewhat true*, and 2 – *certainly true*). The self-report version was used, and the following Cronbach's alphas were reported for this study: .76 for emotional symptoms, .57 for conduct problems, .62 for hyperactivity, .53 for peer problems, and .67 for prosocial behaviors.

DATA ANALYSES

All the analyses were conducted using SPSS, version 28; and Mplus, version 8 (Muthén & Muthén, 2018). Mplus analyses were performed using the maximum likelihood (ML) estimator. The ML estimator provides adjusted standard errors and statistical fit tests to normally distributed data. For factor validity, two kinds of models were used: an independent cluster model confirmatory factor analysis (ICM-CFA), and an exploratory structural equation modeling (ESEM) with target rotation, a less restrictive model suitable for personality research. The ESEM estimates all factor loadings subjected to constraints to identify the model and provides standard errors for all parameters and fit indices available in CFA to check the adjustment (Marsh et al., 2010).

The model fit was assessed with various indices (West et al., 2012). The chi-square (χ^2) was calculated for all the models. A nonsignificant χ^2 implies a well fitting model. However, this test is very sensitive to large sample sizes, and therefore other fit indices were considered. Thus, values of .95 or above for the comparative fit index (CFI) and Tucker-Lewis index (TLI), and of .06 or below for the root mean square error of approximation (RMSEA), suggest good fit (Hu & Bentler, 1999). For the RMSEA 90% CI, values below .05 for the lower boundary and below .08 for the upper boundary indicate acceptable fit (MacCallum et al., 1996).

After identifying the best factor model (Model 1), factor structure was explored in boys (Model 2) and girls (Model 3) separately, and measurement invariance was tested across gender by multi-group ESEM. These models were estimated with a series of increasingly stringent multiple-group models: configural invariance (Model 4), metric invariance (Model 5), and scalar invariance (Model 6); see Morizot (2014) for more details. Similarly, factor structure was independently explored in children and adolescents (from 12 years old) to check whether the loading matrix was more appropriate among adolescents due to improvements in verbal comprehension (Marsh, 1986) and/or better differentiation of personality domains (Marsh et al., 2010).

To assess changes in model fit tests, the Satorra-Bentler scaled chi-square test (χ^2_{S-B}) was estimated (Satorra, 2000). Furthermore, other indices were employed for the invariance between more and less constrained models, following the criteria of ΔCFI ≤ .01 (Cheung & Rensvold, 2002) and ΔRMSEA ≤ .015 (Chen, 2007) to consider a model to be invariant.

Internal consistency and temporary stability were assessed. Due to the expected low Cronbach's α values, Spearman-Brown coefficients, more appropriate to estimate internal consistency for two-item scales (Eisinga et al., 2012), were also employed.

Regarding convergent and discriminant validity, the factors of the TIPI-CA were correlated with the factors of the BFQ-NA; and for criterion validity, the TIPI-CA factors were correlated with the dimensions of the SDQ.

RESULTS

As for the factor validity of the TIPI-CA, indices from the ICM-CFA were unsatisfactory (χ^2_{S-B} = 699.62 [25], p < .001; CFI = .774, TLI = .593, and RMSEA = .109).

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In contrast, the ESEM presented optimal indices for the whole sample and for each gender. Furthermore, minimal changes were reported in CFI and RMSEA when measurement invariance was tested across gender in all multiple-group models, suggesting that the model was invariant for boys and girls (see Table 1). All the gender differences were small, with girls showing lower scores in emotional stability (d = .31) and higher levels of conscientiousness (d = .22). Independent models for children and adolescents did not converge. The intercorrelations of the TIPI-CA items for the whole sample and for children and adolescents independently are depicted in Tables S2, S3 and S4 respectively (see Supplementary materials).

Table 2 shows the standardized factor loadings of the ESEM for the whole sample. All the items of emotional stability and openness to experience were substantially related to their expected factor. For extraversion and conscientiousness, one item of each dimension loaded on its target domain strongly, whereas the items "Sociable, enthusiastic", from extraversion, and "Messy, careless", from conscientiousness, loaded on their corresponding factors slightly lower than .30. Two cross-loadings higher than .30 appeared: the item "Sociable, enthusiastic" from extraversion loaded on the openness factor, and the item "Kind, friendly" from agreeableness loaded on the conscientiousness domain. Finally, the factor of agreeableness was composed of one item of its expected dimension ("Critical towards others, quarrelsome").

The convergent and discriminant correlations between the TIPI-CA and the BFQ-NA are reported in Table 3. Strong convergent correlations were found among the FFM factors assessed by the two scales,

ranging from .54 for openness to .78 for agreeableness. Discriminant correlations were poor, particularly for openness, more closely correlated with the BFQ-NA dimensions of agreeableness and extraversion than with its target domain. In this manner, the TIPI-CA factors were substantially correlated with non-corresponding BFQ-NA dimensions, ranging from .24, between emotional stability and extraversion, to .68, between agreeableness and conscientiousness; and presented a similar inter-correlational pattern to that found among the BFQ-NA factors.

Concerning criterion validity, the TIPI-CA traits were correlated with the SDQ dimensions, with all the associations being significant (see Table 4). Table S5 (see Supplementary materials) presents the relationships between the SDQ subscales and the FFM factors found in the research.

Cronbach's α and Spearman-Brown coefficients were low and very similar for the theoretical factors, whereas one-month test-retest correlations were all significant, $p \leq .001$ (see Table S6 in Supplementary materials).

DISCUSSION

The present study aimed to examine the psychometric properties of a Spanish adaptation of the TIPI (Gosling et al., 2003), the very brief instrument most used in research to evaluate FFM traits, in children and adolescents. Specifically, we explored evidence of construct validity (factor validity, including measurement invariance across gender, and convergent and divergent validity), criterion validity (by exploring its associations with prosocial behavior and psy-

Table 1

Fit indices for ESEMs of the TIPI-CA and measurement invariance across gender

Model		χ^2 S-B (df)	CFI	TLI	RMSEA	90% CI	Ref	ΔCFI	ΔRMSEA
Five-Factor model									
1	Whole sample	13.93 (5)*	.997	.973	.028	[.011; .046]	–	–	–
2	Boys	6.88 (5)	.999	.990	.018	[.000; .046]	–	–	–
3	Girls	5.34 (5)	1	.998	.008	[.000; .044]	–	–	–
Invariance testing across gender									
4	Configural	12.22 (10)	.999	.993	.014	[.000; .037]	–	–	–
5	Metric	50.09 (35)*	.995	.987	.019	[.002; .031]	M4	.004	−.005
6	Scalar	86.06 (40)**	.985	.966	.032	[.023; .041]	M5	−.010	.013

Note. TIPI-CA – Ten-Item Personality Inventory for Children and Adolescents; ESEM – exploratory structural equation modeling; χ^2 S-B – Satorra-Bentler scaled chi-square; df – degrees of freedom; CFI – comparative fit index; RMSEA – root mean square error of approximation; 90% CI – 90% confidence interval of the RMSEA; Ref – reference model; ΔCFI – change in CFI; ΔRMSEA – change in RMSEA. * p < .05, ** p < .01.

Table 2

Standardized factor loadings of the ESEM for the TIPI-CA

	ES	E	O	A	C
ES – Worried, easily upset ES – *Preocupado/a, que se altera con facilidad*	**−.704**	−.051	−.029	−.227	.272
ES – Calm, usually controls his/her emotions ES – *Tranquilo/a, que suele controlar sus emociones*	**.551**	−.053	−.092	−.216	.159
E – Sociable, enthusiastic E – *Sociable, entusiasta*	.126	.271	**.321**	−.197	.183
E – Shy, quiet E – *Tímido/a, callado/a*	.043	**−.900**	.065	−.006	−.008
O – Open to new experiences, with different interests O – *Abierto/a a nuevas experiencias, con intereses diversos*	.060	.102	**.555**	−.169	.016
O – Conventional (preferring what is already known), unimaginative O – *Tradicional (prefiere lo conocido), con poca imaginación*	.080	−.049	**−.449**	−.289	.149
A – Critical towards others, quarrelsome A – *Que critica a los demás, discutidora*	−.181	.041	−.064	**−.467**	−.272
A – Kind, friendly A – *Bondadoso/a, amable*	.126	−.036	.195	−.043	**.476**
C – Reliable, responsible C – *De confianza, responsable*	−.010	.024	.158	.004	**.577**
C – Messy, careless C – *Desordenado/a, descuidado/a*	−.158	−.142	.105	−.232	−.296

Note. TIPI-CA – Ten-Item Personality Inventory for Children and Adolescents; ESEM – exploratory structural equation modeling; ES – emotional stability; E – extraversion; O – openness to experience; A – agreeableness; C – conscientiousness. Bold denotes all the factor loadings above .30. The original TIPI-CA items in Spanish are in italics.

chopathological problems), and reliability in terms of internal consistency and temporal stability.

The TIPI factor structure has been tested in the literature very differently, including exploratory and confirmatory factor analyses with *ad hoc* adjustments (Thørrisen & Sadeghi, 2023). The current study showed that the ESEM model fit the data much better than the ICM-CFA when testing the FFM structure, consistent with previous research (Marsh et al., 2010; Morizot, 2014). Accordingly, the five-factor structure of personality has been observed even in early childhood (Tackett et al., 2012). However, some shortcomings were observed in the factor loadings. Specifically, one item of extraversion and one of conscientiousness loaded slightly below .30 on their target factors. And more importantly, some cross-loadings over .30 were observed: "Sociable, enthusiastic" from extraversion on openness, and "Kind, friendly" from agreeableness on conscientiousness (this last scarcely loading on its expected factor). In this sense, high intercorrelations are commonly found between

extraversion and openness measured by the TIPI (e.g., Renau et al., 2013). Furthermore, concerning the cross-loading of the agreeableness item "Kind, friendly", previous research has produced similar results with their respective adult versions among Spaniards, showing the same cross-loading on conscientiousness in the factor analysis (Romero et al., 2012), as well as low intercorrelations with the other agreeableness item and high correlations with the conscientiousness item of "Dependable, self-disciplined" (Renau et al., 2013). These data suggest that in the Spanish language this item should be reconsidered in depth to discriminate it well from aspects of conscientiousness.

Despite the overlap in the TIPI-CA factors, measurement invariance across gender was estimated, and supported by our findings. In this sense, gender differences in TIPI-CA factors emerged. Girls displayed lower scores in emotional stability and higher levels of conscientiousness with small effect sizes, replicating the differences observed among

Table 3

Convergent and discriminant correlations between BFQ-NA and TIPI-CA factors (n = 800)

	TIPI-CA					BFQ-NA				
	ES	E	O	A	C	N	E	O	A	C
TIPI-CA										
ES	–									
E	.30*	–								
O	.29*	.62*	–							
A	.42*	.57*	.66*	–						
C	.37*	.53*	.53*	.69*	–					
BFQ-NA										
N	**−.55***	−.43*	−.38*	−.59*	−.52*	–				
E	.24*	**.68***	.65*	.59*	.51*	−.28*	–			
O	.31*	.44*	**.54***	.56*	.50*	−.35*	.59*	–		
A	.36*	.55*	.66*	**.78***	.65*	−.46*	.74*	.70*	–	
C	.35*	.50*	.53*	.68*	**.71***	−.45*	.62*	.74*	.80*	–

Note. BFQ-NA – Big Five Questionnaire de Personalidad para Niños y Adolescentes (Big Five Questionnaire of Personality for Children and Adolescents); TIPI-CA – Ten-Item Personality Inventory for Children and Adolescents; ES – emotional stability; N – neuroticism (inverse of ES); E – extraversion; O – openness to experience; A – agreeableness; C – conscientiousness. Bold denotes the correlations between corresponding traits across the personality scales; *p < .001. Effect size (Cohen, 1992): .10 – small, .30 – moderate, .50 – large.

Table 4

Correlations between TIPI-CA factors and SDQ dimensions (n = 618)

TIPI-CA	SDQ				
	Emotional symptoms	Conduct problems	Hyperactivity	Peer problems	Prosocial behaviors
ES	−.47***	−.39***	−.53***	−.29***	.15***
E	−.34***	−.21***	−.13**	−.29***	.10*
O	−.20***	−.21***	−.17***	−.18***	.20***
A	−.18***	−.30***	−.29***	−.21***	.29***
C	−.20***	−.28***	−.37***	−.27***	.32***

Note. TIPI-CA – Ten-Item Personality Inventory for Children and Adolescents; SDQ – Strength and Difficulties Questionnaire; ES – emotional stability; E – extraversion; O – openness to experience; A – agreeableness; C – conscientiousness; *p < .05, **p < .01, ***p < .001. Effect size (Cohen, 1992): .10 – small, .30 – moderate, .50 – large.

Spanish adults (Renau et al., 2013) and partially replicating the findings in the TIPI among young ages (Jones et al., 2022; Mann et al., 2020). Unexpectedly, no gender differences were found in agreeableness, despite the high consistency of this mean difference in TIPI studies (Jones et al., 2022; Mann et al., 2020; Oshio et al., 2014; Storme et al., 2016). This fact may be due to the discriminant problems observed in the TIPI agreeableness factor in Spanish language (Renau et al., 2013; Romero et al., 2012), as previously suggested.

As for convergent and divergent correlations, all the associations between the TIPI-CA traits and their corresponding BFQ-NA traits were large, ranging from .54 (openness) to .78 (agreeableness). Accordingly, when comparing with Spanish adults (Renau et al., 2013; Romero et al., 2012), similar convergent relationships with other larger Big Five scales are observed in emotional stability, openness, and conscientiousness, and higher ones in extraversion and agreeableness. However, important discriminant shortcomings were also observed, which are more

mitigated when adolescent personality is measured with not so short scales (e.g., Ortet-Walker et al., 2021). In line with this, compared to Spanish adults (Renau et al., 2013), much more sizeable correlations with other personality factors different from their corresponding ones were exhibited. That was especially the case of the openness domain. In this manner, the TIPI openness scale presents moderate to large associations with larger extraversion scales in different studies (e.g., Gosling et al., 2003; Renau et al., 2013; Romero et al., 2012). Thus, these data suggest that some versions of the TIPI scale present problems to differentiate openness from extraversion with just two items per dimension. This problem may be more severe in children and adolescents because openness facets are not well manifested until late adolescence (Tackett et al., 2012).

Regarding criterion validity, the FFM traits measured with the TIPI-CA largely replicate the strongest relationships with the SDQ dimensions previously found in the literature with larger FFM instruments, although discriminant flaws are also observed (Bore et al., 2020; Lewis et al., 2014; Muris et al., 2005; Slobodskaya, 2007). Hence, low TIPI-CA emotional stability was strongly associated with emotional symptoms, in line with most of the studies, showing, in turn, similar effect sizes for hyperactivity and conduct problems. Low TIPI-CA extraversion was moderately linked to emotional symptoms and peer problems, as expected; however, its positive association with prosocial behaviors was very small compared to that previously observed. In terms of TIPI-CA agreeableness, this dimension was negatively related to conduct problems and positively to prosocial behavior to a larger extent, in line with the literature. Notwithstanding, an unexpected moderate association with hyperactivity was found. On the other hand, TIPI-CA conscientiousness displayed the largest associations, as expected, with low hyperactivity and high prosocial behaviors. In addition, a relevant link with low conduct problems was observed, replicating previous findings, together with an unexpectedly high association with low peer problems. Finally, the residual correlations assumed between openness and SDQ dimensions became larger in our study. Apart from these studies, one study specifically examined the associations between TIPI personality dimensions and SDQ traits, finding a deficient correlation pattern when personality was self-reported, with small and very homogeneous associations being observed (Kawamoto et al., 2021).

As for reliability, alpha coefficients and Spearman-Brown coefficients were low, an expected finding due to the brevity of the instrument (Thørrisen & Sadeghi, 2023). Comparing the internal consistencies of the current study with those found in the scale on which the TIPI-CA was based (Renau et al., 2013) and those observed in the literature (Thørrisen & Sadeghi, 2023),

the alpha values of the present study were lower. Accordingly, previous longitudinal research has shown that internal consistencies of the Big Five factors increase with age in late adolescence (e.g., Marsh et al., 2010). The temporal stability of the TIPI-CA scales presented similar values to those found for the adult Spanish version of the scale in emotional stability, extraversion and agreeableness, and lower in openness and conscientiousness, especially the latter factor (Renau et al., 2013). Also, the temporal stability of the TIPI-CA factors was lower compared to that observed in TIPI dimensions among adults (Thørrisen & Sadeghi, 2023). These data suggest that the assessment of the TIPI/TIPI-CA factors over time is less stable in children and adolescents compared to adults.

The present study is not without limitations. First, a large, albeit convenience, sample of Spanish children and adolescents was employed. Future studies should explore the TIPI-CA psychometric properties in other sociolinguistic contexts among these developmental stages. Besides that, in the TIPI-CA's adaptation process, a group of adolescents aged from 12 to 16 checked items' comprehension exclusively. Therefore, younger children might present problems to understand the TIPI-CA's items.

Despite its discriminant problems, due to the low number of items and the developmental stage in which the instrument is focused, the TIPI-CA shows acceptable convergent validity evidence with other larger Big Five measures. It is worth noting that the TIPI was originally designed to emphasize content validity with a few adjectives, at the expense of diminished psychometric properties (Gosling et al., 2003). Therefore, like in the TIPI, the correct use of the TIPI-CA has to be restricted to situations where personality is not the main topic of interest, especially appropriate when time is limited and a large set of questionnaires is being simultaneously administered (Gosling et al., 2003), facilitating, in turn, the cooperation of children and adolescents (McCrae & Costa, 2007).

Supplementary materials are available on the journal's website.

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